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ORIGINAL ARTICLES.

THE USE OF MANGANESE IN THE TREATMENT OF DYSMENORRHEA; WITH REPORT OF CASES.

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IN THE MEDICAL NEWS of April 6, 1889, I published an article, entitled "A Plea for the Use of the Manganese Compounds in Certain Forms of Dysmenorrhea," in which I drew the following conclusions:

1. The manganese compounds are valuable additions to the therapeutics of dysmenorrhea, and in a certain number of properly selected cases, great benefit may be expected from their use.

2. Their use does not interfere in any manner whatever with the administration of iron or the vegetable tonics, but rather aids and is aided by them.

3. The best results from the employment of these remedies may not be obtained at once, and failure should not be confessed until after a continuous trial lasting three months.

4. So far as we know at present, the black oxid of manganese is the most convenient form for administration.

At that time the observations of Ringer and Murrell of London called attention to the benefit to be derived from the compounds of manganese in various menstrual disorders, and other clinicians had testified in their favor. Having enjoyed a certain vogue at the time, in the avalanche of new remedies which are being constantly exploited, manganese seems to have lost its prominence, and is now seldom referred to. I feel that this is a mistake, that a remedy, valuable in a number of cases, is being overlooked. That it is one which deserves to be rescued from oblivion and again presented for study and trial. I have been using manganese constantly since the appearance of the paper quoted, and am to-day as favorably impressed with it as when I reported my former observations. I hold it to be most valuable in the treatment of dysmenorrhea in unmarried women; and, until it has been faithfully tried during a period of not less than three months without intermission, I would use no other treatment.

Manganese will not relieve all cases; in some it produces no effect whatever, and in some few instances women have complained that their sufferings actually seemed to have been exaggerated; but when it does act favorably, it is such a boon that it cannot be overvalued. Unfortunately, one cannot foretell in a given case whether or not manganese will be of benefit; I have known it to fail when I had most reason to expect success, and to relieve when I feared it would fail, so that its use is somewhat empiric, and apt to lead to disappointment. This does not, however, change the fact that a large number of cases of dysmenorrhea may be relieved by its use in a way that no other drug can approach, and often after numerous others have been tried and discarded as useless. Even in these days of manipulative and operative gynecology there are many young women who would prefer to be treated by medicines rather than by instrumental interference; who are very naturally frightened out of the office of a physician who suggests a digital examination as soon as a history of dysmenorrhea has been elicited.

In my experience the best results from the use of manganese have resulted when the history is of general malaise before the flow begins, with some pain, growing rapidly worse as the flow is about to commence, and pain more or less severe during the first day. A good color or a pale face seems to have no bearing upon the action of the drug; its action appears to be upon the nerves or nerve-centers concerned in the menstrual function, rather than upon the blood. It is no unusual thing to find a habit of dysmenorrhea, which had existed for years, yield at once to the exhibition of manganese.

The following case is an example:

CASE I.—B. J., aged twenty-five, unmarried, had always suffered from her menses since their establishment. Every month, for as long a period as she could remember, she had spent one day in bed, with severe pains, which she tried to deaden by taking whisky, about six or eight ounces being her ordinary allowance. Her sickness came on regularly every month, but always with a sense of weight and heaviness about the loins, and with excessive pain during the first day of the flow. The pain was no worse than it had always been; nor had the amount of the flow, nor the time which it lasted, changed during years of suffering. She had been a robust girl, taking a great deal of exercise out of doors. When younger she had been rather plump, with good development of bust and hips, but had at this time grown much thinner. Although she had

always been considered sensible and self-contained, she noticed that she easily lost control of herself and gave way to crying spells and fits of depression without sufficient cause, especially just before her menstrual periods. She became quite dyspeptic and constipated, and "colds," which she formerly disregarded entirely, were thrown off with difficulty. She did not blame her dysmenorrhea for any of these troubles, but found that she was less able to put up with these discomforts because of the weakening effect of the regular dysmenorrhea. Early in April, 1895, I prescribed black oxid of manganese, in combination with dried sulphate of iron and extract of nux vomica, in pill form, three times a day during the ten days previous to her menstrual period. On May 1st, she reported that her menses came on during the night, with none of the old feeling of discomfort, and so free from pain that she was not even awakened. This was a totally new experience, and incomprehensible to her, but she remained in bed during the first day of the flow, from force of habit, expecting every moment the return of the usual pain. On June 19th she reported a similar experience. She took the pills daily during the ten days before menstruation; again, she rested during the first day in anxious expectation, but had no pain. Before her period in July she took the pills daily during a week.

By this time, womanlike, she thought that she could act during menstruation just as at any other time, so she was quite imprudent regarding her exercise and clothing, but she experienced no ill result beyond a trifling amount of pain. I explained to her the limit of benefit to be derived from the medicine, and the necessity for care during menstruation even in healthy persons, and she promised to conform to my advice. I have heard from her several times since and she always reports favorably of the action of the pills, saying that she would not be without them for any consideration.

Inasmuch as iron and nux vomica as well as manganese were given, one might be inclined to attribute the resulting benefit to these drugs as well as to the last, but this I am not willing to do. The only improvement in the young woman's condition is that described; she is still as anemic as before; she has not gained in weight; she is still dyspeptic, and finds colds just as troublesome as formerly. The one function improved is that of menstruation, and in that alone does she see any change. She is not so depressed and inclined to the "blues," and she does not suffer pain during her periods. She expected to improve in all her other functions as soon as her dysmenorrhea ceased, but such a result has not followed.

CASE II.—V. K., aged twenty-one, unmarried, a very quiet, sensible girl, with no nervous symptoms whatever, consulted me March 6, 1897. She had a good complexion, was well developed, but not fat, had a good bust and fair hips, and seemed healthy in every way. She was a dressmaker by trade, and formerly thought that the sedentary occupation and confinement to the workroom had much to do with her suffering, but during several months she had been out of employment, doing nothing but light work about the house, and had had plenty of time for out-door exercise. In spite of this, there was no improvement. Her menses began at the age of fourteen, and she had always had pain during the flow; this was bearable at first, but gradually grew worse until it became agonizing during the previous two years and was constantly growing worse. Menstruation was regular, and lasted six days, the pain continuing during the entire time, but being terrible during the first day, which she always spent in bed, taking large quantities of whisky or gin. This resulted only in somewhat alleviating the pain. Between her periods she was perfectly well in every particular. She had unsuccessfully tried various remedies recommended by friends, but had never been examined or taken any medicine prescribed by a physician. Her mother brought her to me for examination and local treatment, to which the girl was naturally much averse. Instead, I ordered black oxid of manganese in 1-grain pills, one to be taken after each meal until after her next period. On March 29th she reported that she had regularly taken the pills and had passed through a period. Although she still suffered a good deal, she felt much encouraged, as she was sick but four days, instead of the usual six, and with much less pain. On the first day of the flow the pain was distinctly less, and even then lasted a much shorter time, so that she was compelled to stay in bed only half the day. She was ordered to continue the same treatment. On April 26th she reported after another period. She had taken the pills, irregularly, until within a week before her time, but for the last week had faithfully taken them. Her period came on three days late, and lasted five days. For the first time in years she did not suffer pain; she was up and about every day, and was able to do her housework without any inconvenience. She was directed to take the pills regularly during at least a week before each succeeding period and report her experience.

From this girl's appearance and general health one would not have supposed that she experienced trouble with her menstrual function; from her history one would suspect the existence of some uterine malposition, most likely a uteroversion or flexion, producing the six-days' flow, with pain and congested feeling, and naturally some local treatment would be suggested after making the diagnosis by vaginal examination. Yet perfect relief was very promptly obtained without recourse to any instrumental interference or to anodynes. When I learned her symptoms I did not expect relief to follow so promptly, if at all; I thought she had some uterine displacement which would require treatment, yet on general principles, because I dislike very much to examine unmarried women unless it is absolutely necessary, I

decided to try first what could be accomplished by appropriate medical treatment.

I could never find out what remedies this girl had been given by her sympathetic friends, but I have often met girls whose drug-knowledge appeared to be quite extensive, either from their own experience or from what they had learned from others. The danger is that some anodyne may be tried, and in this way a craving for such drugs become established. Women are very clever and soon learn to read prescriptions. Already having a newspaper knowledge of morphin, antipyrin, phenacetin, and similar drugs they soon find out which acts most promptly and powerfully and have recourse to it without the formality of consulting a physician. Manganese, however, is an unknown quantity and does not appeal to the female imagination, nor, unfortunately, to the medical mind as much as it should.

CASE III.—S. G., aged eighteen, unmarried, consulted me June 18, 1895. She began to menstruate at the age of twelve, and always suffered. The flow usually lasted but two days. She always had excessive pain during the entire first day, so that she was compelled to remain in bed. She was a schoolteacher and naturally rebelled against this suffering and loss of time. She had always been very irregular, menstruating at intervals of two, three, or four weeks. She had been treated by various physicians, with many different drugs, but none gave much relief. Antipyrin, in large doses, served to quiet her for a time to some extent, but left her very weak. She was seriously contemplating having her ovaries removed.

I prescribed the black oxid of manganese, in 1-grain pills, three times a day, during the next month. On July 15th she reported that menstruation came on after four weeks, that she was sick three days, and that she suffered some during the first two days, but that her suffering, though prolonged, was much less in the aggregate than at any period for a long time. I advised her to continue the pills regularly. She failed to report until October 10th, when she said that she had been very negligent in taking the medicine. During August she did not take it, and had had terrific pain. During September she took the pills with some attempt at regularity, and had had less pain. The manganese was then discontinued, and she was given fluid extract of viburnum prunifolium until December, when she asked to have the manganese again as the pains were not at all relieved by the other preparation. During January, 1896, she reported that she had worked all through her last period. She was seen again in February, having passed through two periods, which were very satisfactory, although not free from pain. She was advised to take the manganese regularly after each meal and report occasionally. I heard nothing more from her until May 15, 1897, when she reported that she had taken the pills regularly until September, 1896, and that during all that time each period had lasted three days, with pain of three- or four-hours' duration on the first day. The periods regularly recurred every three weeks, but with little discomfort. During September she lost the prescription, and did not take any medicine for eight months. She was under excessive nervous strain and mental worry at this time, but had very fair menstrual periods, although they gradually become more painful, until in April her pains were almost as bad as formerly. She was told to take the manganese pills three times each day during at least a week before each menstruation.

I asked this patient particularly about the drugs she had taken before I saw her, but she knew nothing of them, except that one was antipyrin, as all had been given her by different physicians, and all had been failures. Though the manganese was not as great a success as I had wished, still it was far more efficacious than anything else that had been prescribed.

This young woman was endowed with a great deal of good sense and perseverance, which had been put to a very severe test by the failure of so many drugs, one after another. Fortunately, she was not inclined to be at all morbid or hysteric, but had concluded that it was her fate to have such menstrual pains. There are many, however, who are not so placid; who rebel constantly at each recurring epoch; who brood over their sufferings, looking forward with dread from one period to the next. Such women are readily thrown into a true hysteric state, become peevish and fretful, and altogether disagreeable to themselves and to those about them. They are recognized as having high-strung nerves which are readily disordered, especially at or about the time of menstruation. In such women vaginal examination frequently does not reveal anything to account for the trouble, and local treatment is more or less empiric. I have found manganese very effiacious in many such instances, and always use it when such a history is presented before resorting to vaginal exploration no matter how severe the symptoms may be, or how helpless the case may seem from a therapeutic standpoint. Indeed, I consider these the most brilliant successes from this treatment. The whole train of nervous symptoms follows the pain, exciting reflexes in an individual already prone to develop such symptoms under the stimulus of pain, and rendering the system less and less able, with each monthly recurrence, to bear up against its disorganizing effect. The pain shatters the nervous equilibrium, which condition makes its endurance less possible; in effect this condition of the nerves increases the pain, from the sufferer's standpoint. This unfortunate sequence goes on month after month, with in-

creasing effect until the woman is reduced to a condition bordering upon insanity, and is ready to do anything for relief, even to sacrificing her ovaries at the suggestion of the operating gynecologist. I have seen a number of just such patients promptly and effectually relieved by the administration of manganese, so that the pain would never return as long as the drug was taken. The following case is an instance of this:

CASE IV.—M. M., aged twenty-five, unmarried, consulted me March 19, 1895. She was a very well-developed girl, who showed no apparent sign of illness. She worked at sewing of some kind, in a factory, which was not hard work, but confined her to a work-room, and to a constrained position at her machine. She had grown up in perfect health, and had been very strong and vigorous during her school days, being full of play and able to hold her own in any rough sport. Her menses began at the age of seventeen, lasted four or five days, and were at first entirely painless. About three years before I saw her she began to experience trouble with her menses, which began with slight pain, and fretted and irritated her. Gradually she had more pain each month until she felt as though death would be a welcome relief. During the previous six months she had been constantly at such a nervous pitch that it was almost impossible for her to work, and she felt that matters were rapidly approaching a crisis. She had not yet visited any specialist, but had been freely dosed with household remedies, chiefly whisky and ginger. From these she obtained a slightly stupifying effect, but no actual relief. I prescribed pills, each containing 2 grains of black oxid of manganese and 1 grain of dried sulphate of iron, one after each meal. I did not see her again until May 4th, when she reported that after the first few days she had improved. Her nervousness became less, and she was able to look forward to her menstrual epoch with less anxiety than formerly. She menstruated March 25th, and again April 19th. Both periods were perfectly natural and free from pain, even the nervous excitement which usually accompanied them being entirely absent. She felt just as she did formerly, before the advent of the painful experiences. She continued to take the pills during the month of May, and reported that her period at that time was painless. During June she neglected to take the medicine but had a very good period. She was warned of the imprudence of this neglect, and she began taking the medicine again, continuing it regularly through her July period, which lasted five days, and came on so painlessly that she was not conscious of it, and continued regularly and easily throughout. Better even than the absence of pain was the improvement in her general condition. Instead of the nervous, hysteric woman that she had become, she has again returned to her former excellent physical and mental health. She works regularly, and with little distress, and is in every way a different woman. She feels that she has in her own hands a remedy which will keep her well if she uses it.

This is but one case taken at random from many which might be cited in favor of the use of manganese in such instances. The whole picture of the case of this girl is just such as gives pretext in the hands of advanced gynecologists to prolonged local treatment, often resulting in some serious operation; yet all the symptoms disappeared promptly and finally soon after beginning the treatment suggested, and never returned as long as it was continued.

I have had this experience too often to think it an accident. In equally trying cases I have again and again been able to give relief with manganese after many other drugs had been unsuccessfully tried. I do not pretend that manganese will relieve every case of dysmenorrhea, nor, indeed, that it is the only drug which will relieve it. I have often failed with it and obtained relief from the use of other drugs afterward, but I feel convinced, after years of patient and persistent study of the therapeutic aspect of dysmenorrhea as it occurs in young girls and unmarried women, that we have in manganese a remedy which, in many cases, will give relief from the severe and distressing train of symptoms usually accompanying dysmenorrhea, without recourse to any further treatment, thus sparing the woman, already nervous, perhaps hysteric to a high degree, the added anxiety of useless vaginal manipulation. With such a fact before us I feel that no unmarried woman who complains only of dysmenorrhea should be subjected to a digital or instrumental examination for the purpose of diagnosis until she shall have taken a full course of manganese during at least three months, taking 1, 2 or 3 grains of the black oxid three times each day during that entire period, the size of the dose depending upon the ability of the patient's stomach to retain and assimilate the drug. If such treatment could be faithfully carried out I believe that many women would find in the use of these harmless pills the relief which they do not receive from local procedures, and many more would be spared the necessity of any other treatment whatever.

In some instances the effect shows itself remarkably at the first succeeding menstrual period; in others, a longer time is required; in none would I feel that a fair trial had been given until three months had passed; not until then would I consider the propriety of making further examination. In cases of anemia or chlorosis it is well to combine iron with the manganese, but there are many cases in which a need of iron is not at all indicated by the appearance of the woman, and yet relief from severe menstrual pain is

obtained through the use of manganese. Such experiences teach that there is something in the latter drug which acts, apart from the iron, even in anemic cases. I believe it to be an excellent adjuvant to iron in the treatment of constitutional anemia, but in the treatment of the dysmenorrhea of anemic subjects I believe that the manganese plays the important part and that the iron is the adjuvant.

One word about the administration of the drug. Some women experience considerable difficulty in taking it because of a very delicate stomach, which rebels against it. For this reason it is well to begin with a small dose, say 1 grain at a time, and gradually increase it. I have given 5 grains three times a day during several weeks without any ill effect, but experience has taught me that 3-grain doses will do as much good as a larger quanity, and that failure with that much cannot be changed to success by increasing the dosage. Often it is unnecessary to give even that much, but it may be properly pushed to this limit in doubtful cases.

A NEW METHOD OF GENERAL ANESTHESIA.

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THE dangers of the administration of the general anesthetics now in use, *viz.*, ether and chloroform, have been too often discussed since their introduction, but up to now no one has succeeded in solving the problem whereby their disadvantages may be eliminated or lessened. With this object in view a new method has been given to the world which has stood the test of practical application, and has demonstrated, to the minds of many of our distinguished colleagues abroad, all that is claimed for it. The discoverer is best known to us through his original work in the domain of local anesthesia by the infiltration method. I refer to Schleich of Berlin, whom it has been my good fortune to meet recently, and thus be placed in a position to relate what he claims for his discovery.

It is now some two years since Schleich began making original investigations and experiments upon animals in the field of general anesthesia, and his results culminated in the production of a book which was published some six months ago, and was well received by the German members of the profession.

All anesthetics act in small doses as excitants, in large doses they induce sleep, and in the largest doses cause death. It is clear that a narcotic which rapidly evaporates is rapidly eliminated by the respiratory organs, and one which does not evaporate as quickly remains longer in the system and becomes more dangerous with prolonged inhalation. It is acknowledged that a body evaporates more rapidly the lower its boiling-point, and *vice versa*. The question arises: What is the relation of the boiling-point of the various narcotics to the temperature of the organism by which they are absorbed? It must be admitted that a narcotic with a boiling-point of 15° C. (ethyl chlorid) or one which boils at 65° C. (chloroform) must act in different ways upon an organism the temperature of which is 38° C. Schleich, knowing that there ought to be an intimate relation between the boiling-point and the temperature of the body, undertook experiments to discover by a physical process a mixture which would satisfy this relation and materially lessen the dangers of general anesthesia. He found that when the boiling-point is higher than the temperature of the body the amount necessary to narcotize is less than when the boiling-point and temperature are equal. Again, when the boiling-point is higher than the body temperature the deeper the resulting narcosis. The boiling-point of chloroform is 65° C.; of ethyl bromid, 39° C., and of sulphuric ether, 34° C. Thus, it may be understood why less chloroform than ether is necessary to narcotize, and why chloroform narcosis is deeper than that of ether. Schleich has proved that anesthesia with ethyl bromid, the boiling-point of which is 39° C. (nearest the temperature of body), would be an ideal anesthetic were it not for the fact that the advantage of boiling-point is not sufficient to overcome the dangerous action of the bromin.

After making various mixtures of the different anesthetics, Schleich concluded that it is possible to change the boiling-point to the desired degree, and that the mixture will continue to boil without decomposition as long as its temperature is not considerably higher than its determined boiling-point.

Mixtures of ethers, the boiling-point of which closely approaches the temperature of the body, absorbed during respiration will boil when expired with the air in the lungs. It is possible to mix ethers having different boiling-points in various proportions and thus obtain a desired boiling-point; and further regulate it according to the proportion of each used.

After various experiments upon animals, Schleich succeeded in preparing the three following mixtures which constitute the new method:

Mixture I. (Boiling-point, 38° C.)
Chloroform, 45 parts.
Petroleum ether, 15 parts.
Sulph. ether, 180 parts.

Mixture II. (Boiling-point, 40° C.)
Chloroform, 45 parts.
Petroleum ether, 15 parts.
Sulph. ether, 150 parts.

Mixture III. (Boiling-point, 42° C.)
Chloroform, 30 parts.
Petroleum ether, 15 parts.
Sulph. ether, 80 parts.

The mixtures may be prepared by the anesthetizer. The only thing to remark in preparation is that the petroleum ether should have a boiling-point between 60° C. and 65° C. Schleich uses petroleum ether because he found in his experiments upon animals that no other ethereal substance can be administered in such large doses without causing serious disturbances. It, however, seems to mitigate the action of the chloroform contained in the mixture and to dilute the other substances without interfering with their action. The method of administration differs little from that commonly employed in giving other anesthetics, inasmuch as the greatest care in the amount used should be observed. Small doses will lead to slow but sure results. Enough stress cannot be laid upon this point which, as we know, is the common mistake in the administration of anesthetics. With Mixture 1, 30 grams should be an average dose for an operation lasting twenty minutes or less. Schleich has manufactured a special mask; but he has now discarded it, to use with equally good results the practical American idea of the paper-and-towel combination.

If a more prolonged operation is undertaken, a higher boiling-point is selected (Mixture I. or II.); for then the small excess which cannot be immediately eliminated with the expired air will induce a profound sleep with a very small dose. With this method one can regulate the narcosis by the respirations alone. Schleich is enabled to have his patients who are only under a brief narcosis immediately awake after the completion of the operation; for if Mixture I. is used (boiling-point equals temperature of the body) only a few free respirations are necessary to awaken the patient.

After having witnessed quite a number of operations at Schleich's clinic, I was amazed at the rapidity with which the patients both succumbed to and recovered from the anesthetic. A response to a question could be elicited immediately after the mask was removed from the face. Laxity of the abdominal muscles was complete after an average of five-minutes' narcosis. The stage of excitement was generally absent, even in alcoholics. Cyanosis or nausea were never present. Vomiting occurred about as frequently, never more so, as with the use of chloroform. There was no salivation or bronchitis.

Schleich relates a case of bronchopneumonia in a child who previously had had diphtheria, and whom he had occasion to anesthetize. The child was not made worse, but recovered completely from the anesthetic within forty-eight hours. In febrile cases, narcosis has been induced without any resulting disturbances when the 42° C. mixture was used. The pulse was always of good tension, never increased, and sometimes decreased. After the employment of this method of anesthesia patients awaken more refreshed than after the administration of ether or chloroform.

Schleich has, up to the first part of this year, collected some 360 cases in which he has used his method of narcosis with uniformly good results. All that he claims for it has been upheld by many of his associates abroad. There is little or no doubt in my mind that this new departure in scientific up-to-date anesthesia will revolutionize the old methods, and will prove its efficiency by its general adoption in the near future.

A PHASE OF THE TREATMENT OF GOUTINESS.

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THE subject of lithemia has been presented with thoroughness and vigor by many able internalists, and yet it has never received the attention which its importance demands. Those who have studied its literature during the past five years, and have intelligently applied the principles therein laid down are enthusiastic as to the real advances which have been made. Many hitherto unexplained and inexplicable symptoms and conditions yield as if by magic, and the result is not only a relief from long standing disability, but as well, the acquisition of clearly-cut ideas as to diagnosis and treatment on the part of the physician.

While we are not prepared to abandon the term lithemia, yet perhaps it is well, pending a more widely diffused knowledge of the significance of the term, to substitute for it the word goutiness, which is more suggestive to those who hold conservative opinions, and is supported by the authority of Ewart. Satterthwaite's classification divides lithemia as follows: the hepatic (dyspepsia), the neurotic (neurasthenia), and the arthritic (gout). Further, it most not be forgotten that uric acid, whose rôle in the causation of morbid conditions has been so convincingly proved by Haig, is not all of lithemia, nor of uric-acidemia; else leucocythemia must be included in the consideration of goutiness. Indeed, the fact cannot be safely ignored that many instances of what is popularly designated as chronic rheumatism are, properly speaking, forms of disease resulting from uric-acidemia. As for acute polyarticular rheumatism, modern

investigation warrants us in considering it to be of bacterial origin.

Then, making use of the term "Goutiness," as Ewart as defined it (as being synonymous with the conditions of imperfectly declared gout, not necessarily associated with definite structural change, although such may also be present in a minor degree, and usually consisting of varied functional disturbances of a general character which cause many clinical symptoms), we may differ with him in that uric-acidemia, although a declared pathologic condition, should come under the head of goutiness. After these considerations the title of this paper may seem to be appropriate, and more especially, as it is intended to cover but one aspect of the question, namely, the neurotic form so often discussed under the symptom-complex of neurasthenia. That this condition should be succinctly present is evident from the following instance which came under observation about five years ago:

CASE I.—An officer in the navy became incapacitated for duty. His habits were beyond reproach. He was emaciated, pallid, and appeared at least ten years older than he actually was. About every ten days to two weeks he would be absolutely incapacitated by violent attacks of headache, which continued from two to five days. During two or three days he would be depressed in spirits, suffer from inappetence, perhaps be constipated, and be disinclined to mental or physical exertion. Beginning with the afternoon he would suffer from slight vertigo, "crinkling before the eyes." Pain, resembling migraine, with pallor of the face, would assert itself, nausea would follow, and finally, he would be forced to go to bed. The whole gamut of migrainous symptoms would be run; pallor, later flushing of the face; temporary blindness, followed by throbbing temples; lightheadedness, with specks before the eyes; and, as a sequel, nausea, vomiting, and purging; heavy urine, diminished in quantity, with brick-dust sediment, would be followed by a copious flow of clear urine, resembling that of hysteria; forcible palpitation, precordial pain, dyspnea, and later, fluttering of the heart as a preliminary to tachycardia. During the first stage the patient would be melancholic, suspicious, jealous, and irritable. He would give way to fits of temper without cause. The future had nothing in store for him, the past was a failure, and present existence a torment. His heart was believed to be affected, and he underwent an operation for hemorrhoids without an anesthetic. He was believed to be dyspeptic, and his diet was limited until he became emaciated. Since mucus was a frequent and important constituent of his stools, he received cathartic medication in great variety. Finally, he was retired in the belief that his disability was permanent.

A careful physical examination revealed that the only disturbance referable to the heart was a slight hypertrophy of the wall of the left ventricle. The pulse evidenced a high degree of tension. The liver could be felt below the free border of the ribs, the edge rounded and more than normally resistent. The abdomen was tender, somewhat distended, but otherwise normal. The urinary examination showed an acid urine of high specific gravity, a trace of bile, but no albumin, glucose, or casts. The relation of urea to uric acid was greater than thirty-three to one. A strict regimen of meats, green vegetables, excess of water between meals, regular evacuation of the bowels obtained by means of sodium phosphate, after preliminary purgation with calomel, resulted in relief of all symptoms within three months, save that his periodic headaches, although less severe, continued. The coal-tar analgesics administered at the time of an attack had little effect; the nitrites given during the spastic stage cut it short, but the secondary congestion was intolerable; opiates were out of the question. A weak convex glass for manifest hyperopia was worn with comfort, but did not relieve the headache. After several months, during which the condition remained about the same, the use of piperazin water was suggested. This was administered during an attack, and the patient managed to keep about instead of taking to his bed as formerly. The first time that premonitory symptoms appeared one bottle was taken each day three days in succession with the result that the attack of pain was the mildest he had experienced in many years. By giving this remedy as soon as the uric-acid elimination fell below the normal he was enabled to live in comfort, still, however, adhering to his diet and regular life. After some months he engaged in active business, and has so continued with success as to results and comfort to himself.

As this was the first of my using the "water" and as I had not obtained good results from the use of piperazin alone, I was led to quote Haig in my address upon lithemia before the Medical Society of the State of New York in February, 1893, in which I said that "it was not a powerful excretant and could not compare with the salicylates," adding that "I had only found it of use when, in the treatment of neurasthenia, it was combined with large doses of phenacol hydrochlorate."[1] The brilliant success achieved in this instance led me to continue my investigations and finally to believe that I had solved the problem of the management of neurotic lithemics, which hitherto seemed to present insurmountable difficulties. The use of a meat diet, then advanced in my paper, provoked adverse criticism. When, however, we consider, that the so-called vegetable diet is not only one of starches, sugars, and fats, but as well of vegetable albumins (gluten), it is apparent that the distinction between an animal and vegetable diet is one of terms rather than of facts. Further, when it is generally known that the

[1] *Transactions of the Medical Society of the State of New York*, 1893, page 321.

vegetable albumins are of far greater difficulty of oxidation than those of animal origin, and, since lithemia is largely dependent upon imperfect oxidation, the reason for the use of a meat diet is clear. The practice then advocated has been adhered to with the most satisfactory results, not only in affording relief to patients afflicted with goutiness, but to those with well-marked gout who had been treated, *secundem artem*, by the classic methods. While uric-acidemia is a constant factor in both gout and goutiness, we must, as careful observers, admit that there is something else of enormous importance. It hardly aids in the solution of the question to add imperfect oxidation; it simply advances the problem another step. Since it has been conclusively shown by Haig that migrainous attacks are associated with a diminished elimination of uric acid, and that the end of the vasospasm is followed by a largely increased output of this substance, and, inasmuch as *in vitro* piperazin is an excellent solvent of uric acid, we have a logical remedy for the pathologic condition. Inferentially, this drug should be of use in all conditions associated with deficient elimination of uric acid, and practically this is found to be a fact.

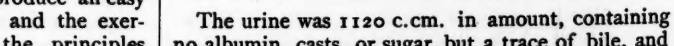
A striking example of this condition (neurotic lithemia) is shown in the following history:

CASE II.—A gentleman of middle age, somewhat corpulent, had spent two summers in Europe and two winters in the South for so-called nervous prostration. There was temporary relief following each vacation. He was a good liver but not a hearty eater. His habits were excellent with the exception that he smoked a number of cigars each day. He was prosperous in business and fortunate in his family relations. His sleep was disturbed by annoying dreams; he awoke in the morning unrefreshed, and rarely slept more than three to five hours. He was irritable, depressed in spirits, and unreasonable; the physical examination revealed an unusually healthy man as regards the respiratory and circulatory systems. The liver was slightly enlarged and tender; the abdomen somewhat distended, and tympanitic; conjunctivæ jaundiced. During January of this year a urinary examination showed absence of albumin, casts, and glucose. There was a trace of bile; acidity high, and the total amount of urine was 935 c.cm., and contained .312 gm. of uric acid, and 25.2 gms. of urea. Thirty grains of potassium acetate was given at 10 P.M., in the hope that the normal morning alkalin tide would be increased. Sodium phosphate was ordered, dissolved in hot water, at bedtime, in sufficient quantity to produce an easy evacuation of the bowels. The diet and the exercise were regulated according to the principles laid down in the address previously mentioned. Ten days later the urine was found to be 2825 c.cm. in quantity, which was exceptional, and it contained .334 gm. of uric acid, and 28.2 gms. of urea. The sodium phosphate was continued and piperazin in 20 grain-doses was given at bedtime. On month later the amount of urine was found to be 1800 c.cm. containing .346 gm. of uric acid, and 29.3 gms. of urea. The patient's ability to sleep was somewhat improved and the morning exhaustion was not so much a subject of complaint. To the dose of piperazin 30 grains of phenocol hydrochlorate was added, and the patient spent nearly two months in the South, returning considerably improved. The urine was now 1920 c.cm. in amount, and contained .501 gm. of uric acid, and 25.1 gms. of urea. The constant dreaming was now lessened, and there was marked improvement as regards irritability and depression of spirits. He was directed to take one bottle of piperazin water during the evening. Five weeks later the urine was 1650 c.cm. in amount, and contained .572 gm. of uric acid, and 24.6 gms. of urea. He now went to his country residence for the summer, coming to town each day for business, and at present reports that he sleeps with but little dreaming, awakes refreshed; everything is bright and cheerful, and he feels able to attend to his business in a satisfactory manner. The last report of urinary condition was: quantity, 1810 c.cm.; uric acid, .629 gm.; urea, 24.2 gms. It is a curious fact that in spite of the low coefficient of uric acid during the earlier part of his treatment he never suffered from headache nor from neuralgia.

The following is an instance of a common error in diagnosis:

CASE III.—A young man engaged in a literary occupation became incapacitated. He was finely educated, brilliant, and cultivated. During May of last year he collapsed mentally and physically, presenting the symptoms generally ascribed to neurasthenia. He was treated in a sanatorium for eleven months, running the gamut of the rest cure, massage, electricity, baths, packs, and vegetable diet. At the end of this time he was just as unable to endure mental or physical fatique as when he commenced the treatment. He had, however, gained considerable flesh. On examination, during April of this year, he was found to be sallow, and lethargic. He complained of constipation, and of but little appetite, abdominal distention, dull headaches, and inability to think or do anything requiring thought. The physical signs were those of an enlarged liver, gastro-intestinal dyspepsia, and the neurotic type of lithemia as regards heart and nervous system.

FIG. 1.



Pulse-tracing illustrating the circulatory condition. (Case III.)

The urine was 1120 c.cm. in amount, containing no albumin, casts, or sugar, but a trace of bile, and .336 gm. of uric acid, and 27.1 gms. of urea. A system of purgation was begun with $\frac{1}{10}$-grain of calomel at hourly intervals until a free movement was obtained each day, and this necessitated the occa-

sional use of Kissingen water. This was continued ten days, during which time the movements would have recalled the older descriptions of inspissated bile. The usual diet was ordered, with a considerable amount of water between meals. A Turkish bath was taken every second or third day. At the end of this period the patient slept much better, and felt refreshed when he awoke. The skin had lost some of its sallowness, and the mental depression was less. During the next ten days gastro-intestinal fermentations were inhibited, first with resorcin and later with bismuth naphtolate. The piperazin water was prescribed in bottle doses, to be taken between dinner and bedtime. At the end of this time the urine was 1640 c.cm. in quantity, and contained .496 gm. of uric acid and 26.2 gms. of urea.

FIG. 2.

Pulse-tracing. (Case III.)

At the present time the patient sleeps six to eight or nine hours each night, and awakens refreshed. He walks several miles daily, reads the newspapers, and takes interest in his surroundings. For the next month the piperazin water was continued; a weekly series of calomel powders were insisted upon. His diet was now made more varied, and increased in quantity; bicycle riding was encouraged. At the end of five weeks the urine was 1725 c.cm. in quantity, and contained no bile; uric acid, .550 gm.; urea, 25.3 gms. The following pulse-tracing shows a distinct gain:

FIG. 3.

Pulse-tracing. (Case III.)

At the present time the patient can easily ride fifteen miles per day upon his bicycle, eat articles of food which he has not ventured to ingest for years, and can digest them better. He sleeps quite well, has regained his intellectual vigor, and is in a fair way to attain his former standard of physical strength.

The purpose of this paper is to point out that a very considerable number of so-called neurasthenics are really patients who are suffering from goutiness of the particular variety known as neurotic lithemia. It is a notorious fact that these patients are cured with difficulty, notwithstanding that they are curable. The clearing of the mental atmosphere of depression as soon as the stored uric acid is set in motion toward excretion is remarkable. Further, since it is not the excess of manufactured uric acid, but rather its deficiency of elimination to which the symptoms are due, and in addition, that a vegetable diet contains albumin of a variety which is difficult of oxidation, renders the prohibition of red meats an illogical procedure. Piperazin *in vitro* has been proven to be an efficient and harmless solvent for uric acid. Administered with phenocol, better results are obtained than when piperazin is alone employed.

So far as my knowledge goes piperazin water is the method of choice for the administration of this drug, because perfect solution in proper dose and quantity of menstruum is obtained.

It may then be concluded: (1) That uric acid, as a causative factor in neurotic lithemia, a form of goutiness, should not be overlooked. (2) That a limited meat diet is productive of good results. (3) That piperazin administered in the form described in this paper is the remedy of choice for the elimination of uric acid, not only in this, but in other pathologic conditions dependent upon the same cause.

WATER PURIFICATION HYGIENICALLY CONSIDERED.

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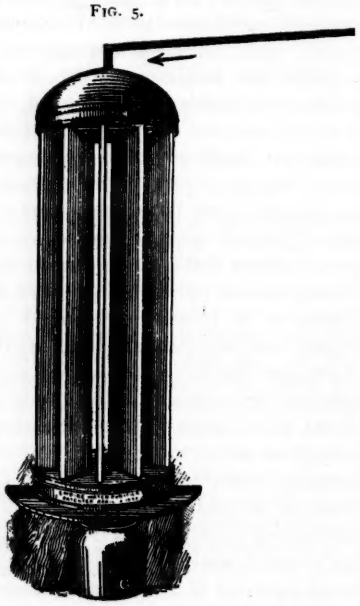
(Continued from page 658.)

THERE are localities, notably in desert regions, where the available supply of good drinkable water is so deficient that the providing of distilled water in large or in small amounts is a hygienic necessity. Aden (steamer point), on the Arabian coast, affords an instance where large evaporators of American and other types are employed for supplying water. Especially when the apparatus uses an exhaust pump is it important to test for the presence of lead contamination or its probability. In our western mining regions and in certain grazing districts in the "Great American Desert," water is often so impure and unpalatable as to require distillation in order to be rendered fit to drink. When the supply is copious enough to permit an abundant flow of cold water for keeping condensing-coils or plates cool, use may be made of the common form of glass or tin spiral tube connecting tightly with a large closed kettle or vessel in which water is kept boiling. The resulting steam goes out of a small opening into a long pipe, which rises at first and then, like the coil into which it conducts the steam for condensation, descends gradually. The spiral tube or coil is fixed in a pail of freely wasted cooling water, and conducts its condensed steam as distilled water outside by passing through an opening on the side of the pail. By bending this distilled-water tube upward and then downward so as to form a siphon after it emerges, contamination by leakage of the cooling waste water is obviated. Such a primitive arrangement produces distilled water that is sterile if only the inside of the condensing-pipe be sterile beforehand. So too do tinned copper drums or pipes through which water is

condensed from steam in an automatic way, the air outside these large-surfaced conductors cooling them sufficiently to secure condensation. Attention is needed only to keep boiling water in the kettle. The joints should be quite tight.

During the last ten years the writer has seen various adaptations of this principle of using cool air for condensation, and those which he has tested have proved capable of yielding wholesome water, free from bacteria and mineral matters, except that lead has been evident when even a little solder has been used for the joints. This is especially the case when the apparatus is new. If such a faulty new condenser must be used, the first few gallons ought to be wasted, and also some after disuse. Tests show that it is safer to tolerate a small leakage of steam from a well-made condenser than to use solder, instead of tin and the blow-pipe, for stopping it. The accompanying illustration (Fig. 5) shows the appearance

FIG. 5.



Domestic condensor. Arrow indicates direction of inflow of steam. Distilled water flows out at base.

of a domestic condenser of the most effective kind. These are usually made as a series of drums communicating by short pipes with tight joints, as illustrated by Sears in the *New York Medical Record*, March 21, 1896. Practically the same idea is embodied in a subsequent model used for the "400" still, which has a cooling surface of over 1½ square meters. These stills yield from a quart to a gallon per hour, according to their size, and somewhat according to the outside temperature and the way they are worked. The steam kettle may be heated on a stove, but a more constant heat can be obtained from a central-draught "mammoth" lamp or an "oil-gas" stove or a gas-stove. When gas is supplied under sufficient pressure, and when water abounds for cooling the steam, a still of the Jewell pattern or the "Domestic" style can produce a gallon or more per hour. The writer has used the latter kind during the last nine years, and found it satisfactory. There are various American and foreign domestic stills employing a comparatively small tinned surface for condensing, and flowing water is used (and also ice) for cooling this. They are generally less satisfactory than the styles above indicated, although they produce distilled water of fair quality.

Chemicals, in which class may be included alcohol in beverages and also the employment of electricity in any form or adaptation, are not to be recommended or relied upon for ordinary practical sterilization of drinking-water. It is true that various reagents of this class if acting in sufficient strength and for a sufficient length of time are capable of destroying bacteria in water. We know that, by admixture of just the proper amount of certain chemicals, foul water and even sewage can be clarified and even sterilized. The importance of the skilful use of quicklime under certain conditions for the removal of organic matter or for lessening the amount of lime already present, is recognized. Like alum, iron, or similarly acting coagulants, it has a distinct utility when indicated for the purification of bad waters, but the use of these chemicals, or of permanganate of potash or such chemicals as bromin (urged by Schumburg), or any others in sufficient quantity to produce immediate sterilization of bad water in all cases, may make it anything but wholesome or palatable. Boiling is in every way more reliable and therefore preferable.

It is quite possible with time to produce, under laboratory conditions, the death of all the bacteria of a given sample of water, or at any rate cholera bacilli, if even so mild a natural acid as lemon juice is added to it. Stronger agents are of course more potent, but it is unwise to recommend that such uncertain means be relied upon by the masses in time of epidemic. Some abominably tasting and rather harmful drugs are at times thus advised without giving the authority and without retraction. Even in serious technical literature fallacious statements of assumed fact are encountered. Thus, Traube asserted that a minute amount of lime chlorid sterilized water. Although obviously erroneous, the statement attracted some attention because of the high character of the organ of publication. Various tests showed that at least thirty times as much as the amount specified was needed. To sterilize bad water in ten minutes one must use of lime chlorid no less than 15

parts to 100,000 parts of the water. Even more may be required if the water contains much organic matter, for that takes up the chlorin so rapidly as not to leave enough to act on the bacteria. The lime chlorid is not easy to dissolve and a sufficient quantity may make the water very hard as well as cloudy, thus necessitating filtration. So, too, the alum process urged by Babes was proved to be inadequate. Although in some cases 4 parts of alum to 10,000 parts of water prevent increase of bacteria, the writer determined from repeated experiments that under practical conditions even this considerable amount could not always be relied upon. Peroxid of hydrogen acting, like ozone, because of its contained active oxygen, if in the proportion of 1 part to 1000 of water, sterilizes it in twenty-four hours, but when organic matter is present this agent is not to be relied upon. All such agents act in too complex and uncertain a way to be comparable with boiling.

Electricity deserves mention chiefly because of the prominence which has been given to it. If conducted through water, a dissociation of the molecules into the component hydrogen and oxygen occurs, the latter being set free at the positive pole, and it can exert a destructive influence upon bacteria, especially in sunlight or strong daylight. This affords an interesting laboratory demonstration, but it costs too much for ordinary employment and is otherwise impracticable. Electrolysis of common salt, present in water, causes the salt to break up into sodium and chlorin. These tend to recombine and one of the products is chlorinated soda, just as chlorinated lime results from electrolysis of lime chlorid. By reason of their available chlorin, these resultant salts are powerful disinfectants and are known to be destructive of bacteria if enough of the fresh, powerful chemical be present, but this is merely a chemic action and no other and subtler force than the chemic products are operative in the process. Because of obvious uncertainty as to the exact quantity of these evolved chemicals when they are introduced in this indirect way, it is preferable that they be added in a precisely known quantity. This is also the more economical way, although the use of such chemicals cannot be regarded as a desirable means of sterilizing drinking-water.

It should be mentioned that when lime is used in the largest permissible amounts to clarify sewage, the effluent water is almost never free from bacteria, and in no case is wholesome even if used at once. If stored or poured into a river, its alkalinity favors the growth of algæ and other forms of water vegetation. The effluent from a properly managed sewage-farm is much more suited for admixture with water of streams that further on are used for water-supply. Natural filtration by the soil or efficient artificial filtration must be considered—like boiling—as vastly superior to chemic and electric means of sterilizing water. Any insoluble substance in minute particles, which is clean and just heavy enough to sink slowly in bacteria-laden water through which its innumerable grains or flakes are diffused, will in settling carry down a considerable percentage of the bacteria. Even rapidly sinking particles, such as grains of sand, can experimentally be shown to produce this result to a certain extent although less completely than particles which settle more slowly. The gelatinous sediment resulting from the addition of alum or other coagulant is very effective in this respect. So, too, on adding fresh lime and also soda to reduce the hardness, the fine resultant precipitate in settling causes many bacteria to sink with it. But this removes only a portion of the bacteria, for it is a mechanical removal and not a chemic action, unlike the total destruction caused by adding an excessive amount of fresh lime or other strong chemic agent.

Hardness of water varies according to the amount of lime and magnesia salts present. Distillation of water, heavily charged with these or other salts, yield a product free from them, and is eminently necessary in exceptional cases in which not only these, but sodium and other soluble salts abound in the only obtainable supply. Ordinarily, however, it is too expensive, costing much more than a cent per gallon. Of the salts which render water hard, carbonate of lime is most common. This is kept dissolved by the carbonic acid present, which is driven off by boiling. Boiling, therefore, causes most of the carbonate to become insoluble, and to separate as a precipitate. This portion thus removable is called "temporary hardness." The same result is obtainable by adding water-slaked quicklime in proper amount, estimated according to the degree of temporary hardness. If there be 20 parts of this to 100,000 parts of water (which is more than can well be tolerated for all domestic and industrial purposes), about 11.2 parts of fresh quicklime are required to counteract it. This, the so-called Clark process, can be accomplished rapidly by the aid of several styles of more or less effective apparatus that agitate and aerify the treated water. Ordinary mechanical filters are also introduced into the process, or water may be allowed to settle in a tank for hours after the quicklime, wetted with four or five times its bulk of water and this still further diluted, is well diffused throughout the entire volume of the hard water. After a day or less of settling, the clear water may be drawn off, or the whole filtered. As above explained, the process reduces the percentage of bac-

teria and organic matter also, as well as the greater part of the lime (and magnesia) carbonate.

As a check upon the addition of an excess of lime, a solution of silver nitrite is recommended. If a little of this be added to a sample of the treated water and a brown precipitate results, it indicates that no more of the lime solution is needed. For each part of sulphate of lime and magnesia ("permanent hardness"), 2.86 parts of fresh sal-soda are required to counteract it.

Springs and wells are fed from the vast quantity of water, usually very free from bacteria, that is present in permeable ground underlain by impermeable strata. Artesian-well supplies have, in addition, an impermeable stratum overlying the water-bearing strata. This supply is derived from rain and snow precipitated upon and sinking into the earth, perhaps a great distance away, and is termed ground-water. It flows along several feet a day, seeking its level toward streams and bodies of water.[1]

When intercepted by rocky or other barriers which are impermeable, or nearly so, it tends to flow out as a spring, which, if favorably situated, is free from bacteria, as the water flows from the ground, because of the slow flow through an immense mass of soil that furnishes the most perfect of filters. If into fine, porous soil, well situated, we drive a perfectly clean tube, water similar to that of a pure spring is obtained. The supply remains free from bacteria so long as they are not introduced by contamination from above. Practically the same result, or nearly as good, can be obtained from a carefully dug well in a favorable spot, yet if a well be not properly curbed, covered, and cared for, dirt and bacteria are certain to enter it, and altogether too often prove the source of disease. Unclean buckets, failure to conduct off overflow (waste) water, filth carried in by rain, wind, general carelessness, and especially nearness of privies, barnyards, and other obvious sources of filth, account for the most frequent unsanitary impurity of well waters, Topographic peculiarities, including flaws in the formation into which the well is sunk, account for some contaminations. All germs of disease ought to and by due care can be prevented from entering.

Wells may be regarded as large pipes surrounding an excavation in water-bearing ground and filled to a varying height with water from this cool source. If only unpiped holes in the ground, they are not hygienically complete. If, then, this pipe, covered on top, has an impervious wall tightly fitting in flawless soil and carried up at the top so that no surface washings can be introduced, unless filtered by at least eight or more feet of fine, close soil, disease bacteria cannot enter. Then all water, however it may vary chemically because of lime, iron, nitrates, chlorids, or what not else, enters only at the bottom through the perfect filter of the fine soil, and so is practically free from bacteria. The immense majority of observers agree upon this point, although occasionally some one comes forward with a statement to the contrary. An eminent biologist has recently reported finding bacteria in deep-driven well waters, but fails to explain that they, like those found by others under such circumstances, were due to contamination from above. Care should be taken during construction to see that the bottom of a dug well has no flaw of the rock or soil to allow bacteria to enter in that unusual way. The well being dug in a place free from danger of contamination of this sort, attention should be paid to the absolute prevention of direct pollution from the surface, which is the source of infection in almost all the cases in which well water causes typhoid and other water-borne disease.

From the lowest part of the wall of the well-shaft, or at least from eight to ten feet below the surface of the ground, there should be a continuous, water-tight concreted casing, and this should rise from one to three feet above the ground. If concrete pipes, two or three feet in diameter, be employed for the purpose they must be well cemented at the joints and loam carefully rammed in around the pipe up to the level of the joint before setting and fixing the next length, all being supported so as not to settle. The top should be protected by a locked or otherwise fastened cover, asphalted, so as to keep out surface or other waste water, insects, and other things. Lead should not be employed for the purpose. The ground should be graded so as to slope away from the curb. Pails and buckets are not to be used. If a pump be placed over the shaft, provision should exist for conducting off waste water. It is much better that the pump be away from the well and the small (two-inch) pipe used for the pump-connection be carried through the casing at least several feet below the surface of the ground by a hole tightly cemented or asphalted about its periphery so that it allows no leakage into the well. The pipe may usually with impunity be of lead if the water be quite hard, but well-tinned brass or copper is better. Tin pipe, practically free from lead, could until recently be bought for a little more than 16 cents per pound, and ought to be used more frequently. The common form of iron suction-pump is preferable to the endless chain and wooden pumps which are used over very many wells.

As above indicated, wells which are properly con-

[1] See *The Am. Jour. of the Med. Sciences*, December, 1890.

structed and located many feet away from privies, barnyards, wash-water, and other sources of filth that in no case drain toward the shaft, afford healthful water, preferable to that from rain, storage, or any ordinary surface supply. It is usually from surface wash entering, owing to the lack of an impermeable curb, casing, and cover, that germs of disease enter a well and cause typhoid fever and other water-borne diseases. In this sort of pollution is included filth brought upon the boots of users to the cover of the well or to the ground near it and washed in, as by waste-water entering through a defective cover, or carried in by rain or by leaching in over the edge with puddle-water or drainings. Water from shallow, unprotected wells, which are not grossly faulty in this regard, is likely to be quite clear and taste better than that from deep waters which contain less oxygen, but which are usually much freer from bacteria. That deep protected wells receive much less of the only slightly changed organic and other chemic constituents of the soil which are carried down by heavy rainfall does not count for much hygienically, for it is particularly putrefactive and specific disease bacteria which cause shallow, unprotected wells to be dangerous.

Palmer of the University of Illinois, in a recent chemical report, has added to our great volume of instructive statistics concerning Illinois and other States, which show the unwholesomeness of water from such mere holes in the ground. He emphasizes the familiar fact that deeper wells in the glacial drift of the prairie regions are much less productive of disease, although the water is often unpalatable, not only because of lack of oxygen but also owing to presence of marsh-gas (due to decomposition of vegetable matters) and perhaps of sulphuretted hydrogen. Iron often adds to the unpleasant taste and appearance of such water, so that the senses are likely to mislead people to prefer an inferior product. This explains the slowness with which the unintelligent learn that it is of paramount importance to guard wells against surface contamination. In prairie regions where the ground lies perfectly level, the house well ought to be a hundred feet away from any privy or other filth, and slops and kitchen waste should be carried far from the locality of the well. When the ground slopes, it must be borne in mind that water seeks a lower level, hence the well should be so situated that the natural flow of the ground-water current is from the well toward any privy or other source of contamination and not in the reverse direction. The ground must be studied to prevent the location of all three of these near together in one common small basin or sink formed by impermeable underground barriers. Mere vicinity of well and house is not necessarily dangerous if no privy or drain be near, and if no slops or other filth or surface drainage can leak into or upon the ground near by. The writer has made bacteriologic tests of carefully constructed wells adjoining, as also underneath houses with thoroughly cemented cellars, and found the water exceedingly pure and likely to remain so as long as no contamination entered; but it is invariably best to have such a source of drinking-water so situated that any one can always see that no carelessness ever introduces contamination.

Local inspection and survey always furnish the most important means of determining the absence of contaminating influence. The shaft of the well is best examined if illuminated, and when emptied the lowest parts can be inspected and flaws carefully searched for. Chemic and especially bacteriologic tests if repeated several times under varying conditions are of considerable value in this respect. For rough practical purposes an inexpensive test, substituting the lithium test, is afforded by throwing a suitable amount of saprol or some intense anilin red, dissolved in water, upon a neighboring filth pile or in the kitchen slop-water suspected of polluting the well. Common salt can be made to serve the purpose. Saprol is a low-priced coal-tar disinfectant of a very marked odor and taste suggesting illuminating gas or naphtholin and, if it penetrates to the water of the well, betrays its presence in a sample taken. To the taste it is perceptible when only one part is present in two million parts of water. The odor is evident when twice as much is present in the sample. If none of this substance be detected in the well after liberal application of it to the suspected filth, it is presumably safe to use the water. If saprol enters the well, further and more precise examination should be undertaken to determine the defect. When the water of a well is exposed to pollution which cannot be prevented, and the trouble is not remediable by the introduction of an impervious curbing and the other safeguards above recommended, the safest way is to fill up the well and make a proper new one in a good location. Koch's recommendation to convert a faulty well into a driven well by filling it up with sand and sinking a pipe in it is not practicable in most cases. At any rate, if this expedient be tried, thorough disinfection and cleansing should precede its employment.

In towns and wherever else it is available, steam driven in for two or three hours at a pressure of from two to four atmospheres is an efficient disinfectant. The leather valve of the pump is to be treated apart by soaking it for an hour in a 1 to 1000 solution of corrosive sublimate. After steaming has ceased, the water should remain in the closed well for nearly a

day and then be removed together with the dead frogs and other organic matter which, by subsequent decomposition, would become offensive, as would be the case after the use of lime or other chemicals. One portion of freshly slaked lime thrown in for every fifty parts of water proves an efficient disinfectant. It is cheaper than bromin or permanganate of potash and more satisfactory than the addition of one per cent. of sulphuric acid. Steam acts upon the entire well, while, when chemicals are added to the water, the walls have to be treated in addition. For artesian and other driven wells, Neisser recommends that steam be driven to the bottom of the tube by means of a small pipe sunk nearly to the bottom. Another pipe may also be introduced for the purpose of drawing out the water at the same time.

Ground water derived from carefully located gang wells and used promptly without being stored is usually very free from bacteria and other organic life. This is especially true when the territory which the driven pipes drain is reserved for a park and guarded from contamination. Such sources may in the end prove to yield less than the expected amount. If then, undue suction be employed to augment the flow of water, the results are unsatisfactory, and underground defects and partial stoppages of the pipes may be produced. When locating such a plant, bacteriologic tests are indispensable for preliminary determination of the quality of the water derived through sterile experimental tubes, samples being taken at different stages of the pumping. A chemic examination is also necessary for learning the amount of iron, hardness, chlorids, and organic matter.

Artesian wells usually yield water of great purity as regards bacteria, yet tests of the water from these deep borings sometimes show numerous bacteria other than those introduced from above ground through carelessness. The character of those found aids in determining their source. There are cases in which various forms of water-life have been carried long distances through coarse strata, and the possibility of contamination from the remote outcrop of the water-bearing strata, must be borne in mind. In those regions in which these deep wells have most frequently been bored, the distant outcrop is usually so situated as to preclude the likelihood of infection entering the water there. Considerable salt occurs in artesian well water in some districts.[1] With all their usual excellence as regards absence of bacteria, deep ground waters, even if the yield continues ample, proves at times too hard and contain too much iron to make them satisfactory, unless they undergo treatment. Moreover, the sieves introduced on the lower end of the driven tubes for the purpose of keeping out sand, tend to become incrusted and thus greatly retard the flow. To remedy this obstruction, hydrochloric acid, diluted with nine times its volume of water, may be carried down to the bottom of the tube through a small pipe, and allowed to exercise its solvent action for nearly fifteen minutes, after which time it is pumped out.

Iron, so common in water from deep wells, may in some cases occur as phosphates of iron in part, but is usually in the form of free ferrocarbonate dissolved in the carbonic acid of the water. If this be driven off in the presence of air, or, if the iron water merely comes briefly into contact with air, the iron carbonate is thereby changed into insoluble ferric compounds; consequently, according to the amount of iron present, and the length of time that the oxygen of the air has worked, the water becomes opalescent, then gradually yellowish-brown, because of the innumerable minute particles precipitated, and which can be filtered out, leaving the water clear. Earthly alkalies present favor the separation of the iron. Any contrivance, such as a spray or an aërified filter, which causes the water to be exposed to the action of air will remove nearly all of the iron from a water.

Filtration, through from seven to ten feet of pieces of coke, gravel, or broken rock, one millimeter in size, with the utmost possible exposure to air, has been found in German experience to remove iron successfully. The slimy precipitate collects and the upper layer of the filter has to be cleaned every fortnight or so, and the entire mass needs renovating, or renewing every few months. Dunbar[1] has indicated a suitable mechanic sand-filter for use on a small scale. The Krölinke process for removing iron calls for the addition of ten parts of ferrosulphate of iron to one million parts of the iron water. Then from fifty to a hundred parts of lime (with water) are stirred in and the whole allowed to stand for twenty minutes before filtering. Hardness, as well as organic constituents, is also greatly lessened by this process, which at the same time separates most of the bacteria. Steckel's process, used in connection with an ordinary well, consists in packing a layer of lime, or, preferably, tribasic phosphate of lime, on the bottom and sides of the well, and fixing it in place so that the entering ground water passes through the lime, which remains efficient for years without removal. It greatly increases the hardness of the water, but removes iron.

For domestic use a bone-charcoal filter will attract and separate iron, lead, or other metallic impurities,

[1] An excellent monograph on "The Artesian Wells of Dakota," by Gilbert, is contained in the report xviii, 2d part, of the U.S. Geological Survey.

[1] *Ztschr. für Hyg.*, xxii, 68.

present in small amount in water which flows slowly through it. Even the ordinary carbon cylinders sold for filtering have some value in this way, although it must be remembered that they have the defects of all ordinary filters. If such filters become clogged by the iron slime, they may be renovated by soaking them in dilute hydrochloric acid. If such a filter be used as a makeshift, the cylinder may be covered with coarse sand, and the water aërified by dropping upon it from a height. Whether any of these or a mechanical filter be used for deferrating water, the main thing is to see that abundant exposure to air takes place.

Rain water, being precipitated moisture of the atmosphere, is very pure as regards the presence of lime salts and other things taken up by surface and ground waters. As ordinarily obtained from a roof, through a gutter and pipe, the first portion that falls takes up not only the soot, dust, and grass which may be in the air, especially of cities, but the washings of the roof and gutters as well. It is best that the first portion which falls be allowed to flow off, carrying leaves, bird droppings, and other dirt, the following portion then proving much purer. Automatic contrivances exist to effect this separation of the unclean first flow, but are not likely to prove popular. They are apt to work badly when leaves or other coarse dirt are washed in. When rain water is of necessity depended upon for a supply, the water-conductor should be kept shifted so that the water running down after rain has begun to fall will be diverted until after the dirt has been washed off, then the following water may very easily be guided into the cistern. In many cases this water contains very many bacteria, which thrive in the darkness and abundant organic matter. Boiling renders it fit to drink. The cisterns or tanks employed to hold water become foul if of wood, and should never have lead in any part, even for piping or cement. Bricks, well coated with hydraulic cement, are approved for cistern construction. Reservoirs of any sort need cleaning from time to time. Chemicals, such as above indicated for porcelain filter-tubes, serve the purpose of disinfecting these also. Steam is excellent when it can be applied.

SUMMARY.

Water may be very clear and palatable, yet at the same time may chance to be impure. As precipitated by condensation of vapor it is pure. Precipitated from the clouds and sinking into the earth's surface and other natural reservoirs it remains wholesome so long as bacteria capable of inducing disease do not enter it. Bacteria present in almost all natural surface waters remote from habitation are presumably harmless. Harmful micro-organisms tend to perish or become innocuous in course of time after entering ordinary water, yet complex conditions may make the operation of this principle uncertain. If harmful bacteria are known to be present more or less regularly in a given supply, or if the entrance of sewage or other obvious pollution near an intake make its presence probable, it is most necessary to employ adequate filtration or other means of purifying water taken from that place. Distilled water is wholesome if it contain no lead. The receptacles in which this and various originally pure bottled waters are stored and transported are often bacteriologically unclean. Boiling, even for a moment, destroys the causative germs of typhoid fever, cholera, and other diseases known to be likely to occur in polluted waters. Ordinary small filters are usually quite inadequate to hold back disease bacteria or any others. All of them allow bacteria to multiply in the filtering substance and to pass through into the filtered water. Reported cases show that ordinary filters can harbor disease germs and cause disease. Small filters of very dense texture, such as the best porous porcelain and also the material used in the Berkefeld filter, can hold back all micro-organisms and thus yield absolutely sterile water for a limited number of days if intelligently cared for. None of these are permanently "germ-proof."

The only permanently germ-proof filter is the natural one formed by immense quantities of fine porous earth, through which "ground water" slowly flows. Filtration by well-managed large gravity filter-beds of fine sand approximates this natural process in efficiency, being capable of rendering the water practically pure. Mechanical filters can accomplish the same result, but are less likely to be maintained constantly in a condition of the highest efficiency.

Ground water, uncontaminated, is hygienically pure, under the conditions indicated above. In very many cases it is the best available source of supply. Free from bacteria as it issues from favorable ground, it frequently becomes contaminated because of carelessness. An outlay of effort and of money, usually much less than would be required for securing a pure surface supply, will eliminate the defect, which is commonly a local one. Open, shallow wells, unprotected from direct pollution by surface washings from privies and other filth, are a notorious source of pollution by, and dissemination of, the germs of typhoid fever and other diarrheal diseases, including cholera whenever and wherever that occurs. If properly located, and provided with a continuous water-tight casing and curb tightly covered, and if it has a good pump which does not necessitate an aperture above ground, even a shallow well can furnish wholesome water.

CLINICAL MEMORANDA.

REPORT OF TWO CASES OF GANGRENOUS PERFORATIVE APPENDICITIS.

BY F. SHIMONEK, M.D.,
OF MILWAUKEE, WIS.

CASE I.—George W., aged eleven years, was perfectly well up to the time of the present illness. December 3, 1896, he was taken with a pain in the abdomen which did not seem to be localized. There was some tenderness over the entire abdomen. The temperature was normal, but the pulse was somewhat exaggerated, being about 100 per minute. During the first day of the attack the condition remained the same. The next day pains were somewhat worse; temperature, 100.4° F.; pulse a little more rapid; bowels constipated, and there was some nausea and vomiting. Slight tenderness was present to the left and below the umbilicus, but no tympanites could be discovered. The bowels moved freely, which, however, afforded little if any relief. Early on the morning of December 5th, after an evacuation of the bowels, intense and cutting pain developed in the region of the bladder and to the left and below the umbilicus, following which the patient collapsed, but reacted within about twenty minutes. The temperature then rose to 102° F., the pulse to 130 or more. There was much pain and tenderness, and tympanites developed. The recti muscles were contracted. The facial expression became very anxious. The pain and tenderness were not situated over the appendical region at any time, but were rather to the left and below the umbilicus, which made the exact pathologic condition somewhat obscure. The subjective symptoms pointed to appendicitis with perforation and peritonitis.

During the evening of the third day of the attack abdominal section was performed. Because of the impossibility of locating the disease externally it was decided to make a median incision. The moment the finger was introduced into the peritoneal cavity it came in contact with a mass about the size of a chicken's egg, attached to the abdominal wall to the right of the median line, and before I was aware of it about two ounces of extremely fetid pus welled up in the wound. The small intestines were coated with a fibrinopurulent exudate, showing that there was present a progressive diffuse peritonitis. The omentum with which Nature had surrounded the appendix to protect the general peritoneal cavity formed the wall of the abscess, but it was scarcely sufficient to carry out this life-saving purpose. The appendix and omentum were separately tied off and removed. The peritoneal cavity was most thoroughly irrigated with about six gallons of sterilized normal salt solution, and carefully drained with long strips of iodoform gauze, reaching down into the cavity as far as possible. The appendix showed small perforations near the apex, and contained a hard concretion. The iodoform drains were withdrawn and the incision closed four days after the operation. Convalescence was uneventful.

CASE II.—Mrs. S., aged twenty-five years, nullipara, a hard-working woman who had always enjoyed excellent health. When first seen by me, thirty hours after the beginning of the attack, she presented the characteristic symptoms of appendicitis. The temperature and pulse were both above normal; general condition good; very little or no tympanites; excessive tenderness over the region of the appendix, but no tumor could be discovered, either by abdominal or vaginal examination. The right rectus muscle was very rigid.

She was given a cathartic dose of calomel, and immediately after the resulting evacuation, excessive, cutting pain was felt in the hypogastric region, immediately above the mons veneris. The temperature suddenly rose to 103.8° F., and the pulse to about 130. Laparotomy was performed during the evening of the third day of the attack. A large quantity of very fetid pus was evacuated, and the gangrenous and perforated appendix with surrounding omentum removed. A large and hard concretion was found in the appendix. General fibrinopurulent peritonitis was present, and the small intestines were extensively covered with exudate. The peritoneal cavity was very thoroughly and carefully irrigated; it was necessary to use ten gallons of sterilized normal salt solution before the return flow became clear. Iodoform gauze was passed down to the bottom of the pelvic cavity, and the resulting drainage was excellent. The temperature and pulse rapidly dropped to normal.

On the fifth day the gauze was found dry, and therefore was removed, and since everything was found to be progressing favorably the incision was closed. Patient progressed nicely, temperature and pulse being normal until the fourth day, when on account of a slight rise of temperature it was deemed necessary to remove the stitches, fetid pus having escaped through the stitch-holes. The entire incision was reopened and a large quantity of extremely fetid pus washed out and a drain reinserted. The peritoneal cavity was now, however, found to be thoroughly walled off. The patient after some ups and downs finally made an excellent recovery.

These two cases prove that diffuse peritonitis is not always a bar to prompt and complete recovery. It has been stated that the presence of peritonitis complicating an attack of appendicitis is a contraindication to operation.

A CASE OF HYDATID TUMOR.[1]

BY S. J. MCNAMARA, M.D.,
OF BROOKLYN, N. Y.

A DESIRE to lend assistance to the keeping of accurate statistics of a rare disease prompts me to report the following case of echinococcus. But one hundred cases of this disease have been reported as having occurred in the United States, for the statistics of which we are indebted to Mr. H. O. Sommer of the Government Agricultural Department. In sixty-six of the hundred cases the echinococci had their habitat in the liver, in seven in the lungs, and in six in the bladder, the remainder being distributed through various other organs and tissues of the body. In one instance they were found in the tibia, and in another in one of the ventricles of the brain.

Mrs. P., Italian, aged thirty-one years. During the

[1] Read before the Kings County Medical Association.

past nine years she has resided in the United States, and for the last six years has been subject to epilepsy. Is the mother of five children, the youngest being two and one-half years old. Enlargement of the abdomen was first noticed sixteen months ago, until which time the general health had been good. She then became emaciated and gradually grew weaker, while the abdomen continued to enlarge until, just previous to operation, it equaled in size that of a pregnant woman at term, but with greater fulness at the sides. Fluctuation was marked. On opening the abdominal cavity, which was accomplished through the usual median incision, a large cyst presented. A trocar was unsuccessfully employed to draw off its contents. An incision through the wall of the tumor revealed the echinococcic character of the cyst with which I had to deal. It is not an exaggeration to say that thousands of smaller daughter cysts, light yellowish, limpid, and with very thin walls, rolled out until a foot-tub was three-quarters filled. The woman was relieved of twenty-six pounds of these daughter and granddaughter cysts, all of which had been contained in a single large cyst. The tumor had its attachment in the upper portion of the abdominal cavity, although it was impossible to determine its exact point of origin. A large portion of the omentum, which was studded with secondary deposits, was removed. As much of the main cyst as possible was also removed, and that remaining was sutured to the abdominal wall and a drain inserted.

The operation took place on the 26th of June and one month later the patient left the hospital. Four days afterward she had a miscarriage which, though not severe or dangerous in itself, in her weakened and already exsanguinated condition, proved fatal. During the last two weeks of life the hydatids multiplied to such a degree as to be detectable through the abdominal wall. After the operation and up to the time of the fatal issue the cyst remained open, and occasionally it was necessary to change the dressings five or six times a day.

AN ADDRESS.

SUGGESTIONS FOR THE FUTURE WORK OF THE SOCIETY.[1]

BY ARTHUR MIDDLETON JACOBUS, M.D.,
OF NEW YORK.

FELLOW MEMBERS OF THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK:

During a membership of more than twenty-one years I have received many honors at your hands, such as appointments on special and standing committees, and election to the office of Censor and of Vice-President, but it now remains for me to thank you for having received the greatest honor in your gift, that of President of the Society. This is especially gratifying since it came to me with absolutely no personal seeking, and after a spirited contest on pending issues. Words fail me to express due appreciation of this evidence of esteem and confidence on the part of so large a body of my professional brothers, and which, without disrespect to the society, is appreciated even more than the honor of holding the office conferred. In return, I pledge myself to fulfil the duties of president to the best of my ability and judgment, absolutely independently and impartially and with a due regard to all the rights and interests of each and every member. In so far as the influence of the president may control the policy for the year, it will be aggressive yet conservative; aggressive as to the rights of the profession and of this society in particular and conservative as to rights of others.

This will undoubtedly be a very active year for the society and its work for good, it is hoped, will be of lasting value. On January 1, 1898, we will pass from a county society, occupying the entire area of the largest American city, to one limited to but two boroughs out of five—though of the same area, the boroughs of Manhattan and the Bronx—in the third largest city in the world, the so-called "Greater New York." By this change, three other county societies will be entitled to share with us the consideration of medical matters pertaining to the enlarged city. With this transition, there will be great changes in the public departments; for instance, in the Departments of Public Works, Schools, Charities, Health, and Street Cleaning, the efficient and proper management of which we have so much at heart. It is, therefore, suggested that it would be of mutual advantage, and of public benefit, if the elective officers of this society were empowered to invite a conference during the coming month with the officers of the other county medical societies located wholly or partially in our sister boroughs (those of Kings, Queens, and Richmond), for the purpose of cooperation in the supervisory functions which we all should have, and are justly entitled to, over all medical matters arising in the said public departments of the enlarged city of New York. If mutually agreeable, these conferences should be held at least quarterly for the consideration of all public medical questions pertaining to the city departments, which from time to time may arise and which should be submitted to at least some competent representative medical body before any department or public official shall be permitted to promulgate rules affecting the medical profession or its practice, or the conduct of medical charities.

In a representative sense this body might be called the Medical Society of the City of New York, and will be the spokesman of some 2500 reputable physicians who are members of the four county medical societies previously referred to, also acting in the interests of several thousand others. Public officials, either through laxity, ignorance, favoritism, or partisan or vicious tendencies, often err in making appointments or in the line of department work, and consequently a watchful body such as has been suggested, zealous not only for the public weal but of that of the profession also, would have lasting controlling force and effect. Indeed, considering the gradual and insidious encroachments which by legal enactments and otherwise, at least one of the great public departments of the city is surely exceeding its functions as a public servant and tres-

[1] President's Inaugural Address, delivered before the Medical Society of the County of New York, November 22, 1897.

passing upon and usurping the duties, rights, and privileges of the medical profession and the public. We cannot too soon call a halt and demand a surrender of such autocratic and unwarranted powers.

I refer to the Health Department of this city and, in doing so it must be distinctly understood that there is no intention to reflect on the personnel of the commission. I refer to it in order to condemn the autocratic rules and unrestricted and increasing practices of the department and its officials; more specifically, to condemn the free vaccination, and the inspection and examination of school children for contagious diseases, defective vision, etc., regardless of the wealth of their parents or the rights of the family physician or other practitioners; to the ever-increasing control, segregation, and free treatment in public institutions and elsewhere of patients suffering from even the ordinary infectious diseases, which any physician of to-day is fully competent to quarantine and treat at home, in most instances, and that too, without the frequently officious visits and criticisms of the Department Inspector or other employee. In justice to the present commissioners it should be stated that since last spring, when a committee of this society, consisting of the retiring and present president and the chairman of the Committee on Hygiene, had a conference with them, they have issued more stringent rules for the guidance of the inspectors and other employees in their relation with practitioners, and the patients of such, and fewer complaints have come to the ears of the officers of this society. The commissioners at that time promised to eliminate the cause of such complaints of discourteous or unprofessional treatment of practitioners, even if it were necessary to discharge each and every employee of the department, high or low, and they desired that physicians with such grievances should write to them at once, giving full particulars, when the inspector or other employee involved, if guilty, would be reprimanded or discharged, as the offense warranted. If the members of the society would bear this in mind, and act accordingly, there would soon be little cause of complaint on this score.

To return to the main question, it may well be asked: By what right in law or equity does the Health Department, or its physicians, presume to treat disease in public institutions, or elsewhere, and in some instances attempt to dictate or to discredit the diagnosis of the condition, or the treatment, of patients under the care of a licensed practitioner, not only in private life but in public institutions? If the afflicted persons are poor and in need of hospital care they should be treated like other poor patients, by the physicians of the various public institutions under the care of the Commissioners of Charity. If they are well-to-do, then they should be treated by the private practitioner, at home or in a secluded public or private hospital if need be, and pay for the services rendered.

The same rules should apply to the vaccination and examination of school children or others in so far as may be possible. With the gradual extensions of the arbitrary rules of the Health Department, made without consultation with the medical profession as a body, or only, perhaps, with committees of their own appointment or suggestion; by its yearly addition to the list of so-called infectious diseases which it desires to bring under its control; and by its almost unlimited power over persons, patients, and property, and the too-frequent abuse of power by its employees, it seems that the time has arrived when the medical profession should awaken from its lamb-like complacency and assert its rights as well as those of the public and enforce recognition of them.

Where shall the line of demarcation between the proper functions and duties of the Health Department and its inspectors and other employees, and the rights, privileges, and duties of the licensed practitioner be drawn? I would suggest that this question, which also gives utterance to the feeling of many members of this Society, be referred to a special committee, or to the Committee on Legislation, for an impartial and thorough investigation, and that the committee be directed to report back to the Society, with any recommendations deemed advisable, at the earliest possible date, in order that we shall be in a position when the new civic administration comes into power on January 1st next, to advise it concerning the matters herein referred to, and if necessary, to appeal to the Legislature for the desired relief. The Society should also, with the cooperation of other interested societies, make an earnest effort and use all possible legal influence to induce the Legislature to amend the law which disfranchises and excludes the members of the medical profession from the chief executive position in the Health Department. The only open excuse for excluding physicians from this office has been that they are claimed to be poor business men or executive officers. This is absurd, and especially so when we recall that members of this and other medical societies throughout the city and country who have been, or are, speakers or members of different State Legislatures, or of the United States Congress, or governors, mayors, presidents, managers, trustees, or directors of some of our largest life insurance, telegraph, railroad, or real-estate companies, or of colleges, banks, or various other large corporations, and in which several positions great executive ability is required and rendered. It is an anomalous condition, and as well might a lawyer be disfranchised and debarred from the office of district attorney or counsel to the Corporation of the City of New York, and a physician only eligible and appointed instead.

Among the questions already under consideration by the Society, the correction of the abuses of medical charity is the most important, and in consequence of these well-known abuses, the increased departmental physicians, and the matters previously alluded to, we are as a profession sorely beset. The time seems to be coming when the calling of a physician, as such, outside of public institutions and departments, will become but the luxurious pastime of the wealthy sons of the fashionable set. The abuses of medical charity have been so generally recognized and admitted by the laity, as well as by the medical profession, and have been so thoroughly written up by so many of our members and others, for instance, by Drs. Stephen Smith, George F. Shrady, Landon Carter Gray, F. H. Wiggin, Charles Phelps, J. B. Huber, T. J. Hillis, Douglas H. Stewart, and others, and by

almost the entire medical and secular press of the city, and finally by your Committee on the Abuses of Medical Charity, that were I able it would be superfluous for me to go into the subject further, for the abundant evidence is all one way and is admitted by everybody. It is significant also that in all the medical societies of this State, from Buffalo to Montauk Point, in which the subject has been discussed and committees appointed, the general sentiment has been the same, namely, that grievous abuses of medical charity exist and are rampant, and that they must cease; and that free treatment, or other medical charity, must be limited absolutely to the deserving poor. It only remains, then, for this and sister societies to determine upon satisfactory measures of relief, and to see that they shall be enacted and enforced.

It will be recalled that on May 24th last, your Committee on the Abuses of Medical Charity, which was composed of men representing various interests, rendered a report of its investigations and work, with a copy of a bill, which had passed the Legislature unanimously. This report, after considerable discussion, was accepted, the recommendations therein contained were adopted, and the committee continued, with power. The bill, as you know, failed to receive the signature of the Governor. That bill, with a few minor changes as to details of enforcement and penalties, has my hearty approval, but as I understand that the Committee on the Abuses of Medical Charity proposes to make a supplementary report to-night, which will include a bill amended to suit the objections made last spring by the Governor and a few members of this Society, it will be left for the committee to tell just what legislation is proposed and deemed necessary. In attempting by legal enactment to bring about the necessary relief—and no other means under the circumstances can possibly cope with the abuses,—due regard should be given to the interests of all concerned, for instance: the medical profession as a whole, the public philanthropists, and the incorporated colleges, hospitals, and dispensaries. No "vested right" of any existing legitimate, *properly conducted* institution, or corporation, should be interfered with or abolished so long as such institution shall truly and honestly endeavor to conform to such reasonable laws as may now exist, or shall hereafter be enacted, to correct the abuses referred to.

Let us all get together, give here and take there, acting unselfishly for the general good and combining the harmonious and unanimous action of the members of this Society with the increasing number of other societies ready to lead or assist in the movement. The result will be sure and certain, and will redound to the credit and prosperity of all concerned. If the members of the medical profession as a whole would stand by each other as individuals, unselfishly and honestly as men, the same as lawyers and members of other professions do, there would be little necessity for legislation for the relief of evils which physicians themselves are largely and almost wholly responsible for.

Another question which should engage the serious attention of the Society this winter, and be settled if possible, is whether midwives shall be permitted to exist, be educated, regulated, and licensed, or shall be abolished as a profession. As a Society we are bound, if only for the public good, to insist that either one or the other of these propositions shall be adopted. As the state of affairs exists to-day, it is a horrible stench and crime in the nostrils and eyes of every civilized community. The name of midwife in this city to-day is synonymous with feticide, infanticide, and homicide. Proof of this may be found in the glaring advertisements and in the startling accounts of criminal abortions which are published in the daily papers or in the coroners' or criminal court records, or in the reports of deaths from septic peritonitis, filed in the Health Department, of many victims who have passed through the hands of midwives. But even such abundant evidence, as the members of this Society well know from what comes to their ears or eyes almost daily, does not tell one-thousandth part of the horrible tale. Only recently have we seen the spectacle of a miserable fiend of this character, who, if but a fraction of the rumors and stories are true, is deserving of punishment far beyond that of electrocution, and who, to save her own miserable, cowardly life, turns State's evidence and thus ensures another death —that of her foolish paramour and tool.

In this city, where midwives have even no legal status, it seems only requisite, in order that they may qualify for such a calling, that, first, from the necessity of widowhood, poverty or sordid gain, they shall have attended one or more cases of confinement, perhaps their own, obtain a certificate from two physicians, and file the same at the Health Department, when the trifle of a little thing like fitness and education is accomplished and they are graduated to go on their errand of mercy, and, not unfrequently, death. As physicians, we have even a more serious personal reason why something should be done to abolish the abuses or crimes of midwifery. It too often happens that after the criminal or ignorant malpractice of a midwife, we are, as a last resort, called in to assist in saving the life of a victim, and as a result of our errand of mercy we are often haled before a court of law, or worse, that of the public press, and there stand charged as the prime mover or abettor of the crime, a stigma which, however innocent we may be, we can never efface during life from the memory of some. I regret to say that the press, in a few instances, for the sake of notoriety, or other reasons, devotes columns to the purpose of parading the physician's innocent connection with the case, rather than to an effort to assist the authorities in apprehending and punishing the real criminal.

The Society of Medical Jurisprudence, at a meeting held in this building on November 8th last, after listening to a very suggestive paper, entitled "Midwifery and the Midwife," by Dr. C. A. Von Ramdohr, appointed a committee to consider the question of the enactment of proper laws to regulate the practice of midwifery, with power to cooperate with committees of other societies working to the same end. I would suggest, therefore, that our Committee on Legislation be directed to make an investigation of the subject, and to confer with the said committee, and to report back to this Society, with such recommendations as it may deem necessary.

There are other matters of public interest, which the Committee on Hygiene should undertake to study and report upon to the Society, such as the deleterious effect, if any, of the terrible, almost volcanic eruptions which the city has been subjected to on almost all of the avenues running north and south, and particularly below Fifty-ninth street, during the past two years, and which will probably continue another year, and the remedy for the same; also, as to the advisability and methods by which inexpensive public lavatories and toilet-rooms may be established at reasonable intervals in connection with drug-stores or respectable hotels, etc., on or adjoining public thoroughfares, for the convenience of the citizens, men and women; also, as to whether the advantages of the asphalt pavement, now so generally being put down in the city, outweigh the disadvantages, as it is claimed by some that they do not, and particularly as to whether the air-tight pavement is injurious to adjoining houses and residents by forcing the noxious gases, as some claim, to enter the houses; also, as to the injurious nervous effects of long school hours, and the excess or forced instruction of young children, particularly girls, in the public grammar schools, where they are often graduated a year or two before they are old enough to enter the Normal College; also, as to the physical injuries, if any, to the smaller children in the primary grades, who are forced to sit and study during several hours daily over non-adjustable writing-desks, with seats so high that the feet of but a few of the pupils can touch the floor.

These and other matters in connection with public institutions, such as street railway accommodations, milk, water, and other foods, the disposal of manure, garbage, and slaughter-house refuse, etc., are of vital importance, and this society should endeavor to study and correct them in so far as possible; but for fear that your patience is already taxed to the point of endurance, further reference to the questions of this character will be left to the Committee on Hygiene.

Before closing, permit me to refer to one more topic, namely, the question of enlarging our membership for offensive and defensive purposes, by encouraging and inviting all non-sectarian, well-qualified physicians of known respectability to enter our ranks. This society certainly represents, to a greater degree than any other in the city, the pulse, welfare, and wisdom of the profession as a whole, and since the society during generations has been the faithful bulwark which has stood between charlatanism, bigotry, and ignorance on the one side, and the rights and privileges of the public, as well as the profession, on the other, it ought to receive the homage and support of the entire profession of the city, instead, as has sometimes been the case, of unmerited criticism, censure, or revilement from many who ought to and do know better.

This is often called a "fighting society," and only recently have I heard more than one medical man of standing exclaim: "Oh, you are always fighting down there." Well, that is true, and we also have a little skirmish occasionally over the election of officers, or about questions of public and professional policy. But, as to that, a man or woman or a society which has not some fighting blood is not of much consequence or worth existence excepting perhaps as a missionary to the cannibals. Even a "fighting chaplain" is the more valuable, like famous Parson Caldwell, one of New Jersey's Revolutionary heroes, who, on the battle-field of Springfield, on the appearance of the "Red Coats," gathered an armful of hymn-books to be torn into gun-wads, and, while he probably wanted to say, "Give 'em hades, boys!" shouted, with electrical effect: "Give 'em Watts, boys! Put Watts into 'em, my men! Ah! I see they're out of wadding. That's the tune! We'll all join in!" Let the cause be just, the means of warfare fair, and the motto "Right Makes Might," and we need not fear to have the name of being fighters; rather may we be proud of it.

But, seriously, what has the Society fought about or for? It has fought against bigotry, charlatanism, ignorance, illiberalism, and selfish or unprofessional conduct on the part of members of the profession, as well as against the autocratic or unjust treatment by pubic officials or departments of the profession as a body, and particularly for the rights and privileges of the latter. It has fought for non-sectarianism in medicine; for a higher and better medical education; for a "golden-rule" policy or guide of ethics, and one by which we can and do discipline the guilty, whether high or low; for a liberal policy toward women who desire to take up the profession of medicine, and, in this, as in most other matters, it has been in the van; for the protection of the public health; for the protection of its members when sued for reporting supposed contagious diseases under a penalty rule of the Health Department, whose inspectors ought to have been held responsible, as for instance, the case of Brown *vs.* Purdy; and for many other questions too numerous to mention. Its steady work during the past seventeen years has been to protect the public and the profession against irregular medical colleges and the hordes of illegal practitioners, midwives, and druggists, and other persons practising medicine illegally, and who would otherwise have swarmed in this city to the serious injury of all.

The burdens and expenses of these prosecutions have been borne solely by this Society, and though they have cost us nearly twice the aggregate amount received in fines, I am sure that we do not begrude the cost when we think of the immense benefit that has resulted. Great credit especially is due the Society, since it was the pioneer, in 1807, and until very recently the only censor and worker in such field of prosecutions, and in which also we did not expect to, nor do we, derive any pecuniary benefit. Through the courtesy of Mr. Wm. A. Purrington, former counsel, and Mr. Robert C. Taylor, the present counsel of the Society, and our Treasurer, Dr. John S. Warren, I am enabled to give briefly a few figures as to the cost and results of the Society's work in this line, and the result will probably astonish the members of the Society, as well as others. The Society began this series of prosecutions early in 1880, shortly after it had secured the passage of a law for the suppression of illegal practitioners, etc.

From 1881 until October, 1884, the prosecutions were

under the charge of Mr. E. C. Ripley, the costs and fines being as follows; Costs, $7254.45; fines imposed, $1350.00; fines received, $725.00. From November, 1884, until December, 1893, the prosecutions were conducted by Mr. Wm. A. Purrington, the result being as follows: Costs, $20,041.23; fines imposed, $14,650; fines received, $10,275. From December, 1893, to October, 1897, the prosecutions were under the charge of Mr. Robert C. Taylor, with costs and fines as follows: Costs, $9271.71; fines imposed, $5385; fines received, $3160.[1]

It should be said in justice to the latter counsel that during his first year and a half of office, owing to an error in leaving out the penalty clause when the medical laws were codified just previously by the State Legislature's Committee, it was necessary to prosecute illegal practitioners under civil suits, and consequently the Society did little of that work at that time, and with little or no receipts from damages or fines. A change in the appointments of new magistrates in the new city courts also interferred with the work. Adding the foregoing figures we have the following as the total costs and receipts from prosecutions of illegal practitioners and others, from 1880 to 1897, inclusive: Counsel fees and disbursements, $36,567.39; fines imposed by the courts, $21,585.00; fines collected and paid to our treasurer, $14,160.00,[2] the deficit between fines imposed and received being $7425.00, this amount having been remitted by the courts, or served out by the convicted practitioners. The deficit between counsel's salaries and disbursements and the fines collected and paid to our treasurer was $22,407.39, making the average yearly excess of costs for the whole period over receipts from fines, $1318.08. During the past two years together, the counsel's costs has been $5841.30, and the receipts from fines paid to the Treasurer, $2610, or a total deficit for the two years of $3231.40, or an average yearly deficit of $1615.70.

The above figures do not include the extra legal expenses of the society during the past seventeen years for extra counsel fees, etc., in drafting, and passing, or watching bills in the legislature, or for legal opinions, and for subscriptions and expenses in the Purdy, Van Fleet, and other suits, which would probably increase the grand total of costs for legal work performed by the society during the period named to nearly $45,000.

We must not stop this work, and from the opinion of our counsel we are led to believe that we cannot do so without having the city worse off than ever, for the city or its district attorneys will not take up the prosecutions. Why the medical profession should be made to prosecute and pay the expenses incurred in prosecuting criminals or others for infringing upon the medical laws, or for imposing upon the public, it is hard to understand. Certainly, no one would expect the legal profession, or any other, to fight infringments upon its and the public's rights. But doctors will submit to almost anything, and when they are not united the few workers cannot make up for the drones, or the indifferent, and I presume this explains the reason for the imposition.

It is evident from past experience and the future's prospects, that for the counsel's fees and disbursements for the prosecutions alluded to, and which have generally been rendered at a minimum of costs for the work done, and for the other legal work of the society, that it will require an annual expenditure of at least $3500, or fully three-fourths of our income from dues. It is true that we shall probably average, to be safe, a yearly return in fines of at least $1200, although during the past two years the amount has exceeded this figure. But as a matter of fact we must have more money or allow this work to cease, for you will recall the fact that the last annual report of our treasurer shows the total annual expenses of the Society to have exceeded the receipts from all sources by nearly $1000. To offset this, we must have five hundred more members, or else must increase our annual dues to $4 or even $5. Of the two propositions I prefer and would recommend the adoption of the former, for when we look over the list of medical men of standing in the city who are not members of this Society it will surprise us, and a canvass among these, I am sure, would soon fill our ranks to the required number to carry on the good work which every physician as a matter of fact ought to be interested in and support. While quality before quantity should be considered, there will be no difficulty in securing the additional well-qualified members if the history and labors of this Society are but half told.

Let us also hold out the olive branch to those physicians who left us fifty years ago owing to the quarrels over old dogmas, and who took upon themselves the name of certain sectarian practitioners. If they will but drop the sectarian title for that of physician, pure and simple, and let the "old" and "new" school questions die out, I am sure that we will welcome them with open arms, as we have received a great many of their practitioners during the past few years who have declared their abnegation of sectarian principles and practice. Let us also open the way for the return of those who left us nearly fifteen years ago, over a matter of the wording or phrasing of a series of ethical rules or by-laws, and whose return to the common mother would help us all, for after all, with a few exceptions, we are mostly at peace with each other, and are working on the same lines for the welfare and general good of the profession. With a united medical profession, working unselfishly for the common good of the public, as well as of the profession, there would be no need of "leagues" or other associations of medical men to spring forth to do that which formerly was and ought now to be our duty.

In closing, I ask for myself and associate officers your kind encouragement and support during the coming year; and you may rest assured that we each and all will endeavor to be honest and faithful servants of the good old Medical Society of the County of New York.

[1] This does not include $400, which was due the Society, and which has since been paid to the Treasurer.

[2] Four hundred dollars more has since been paid to the Treasurer.

Illness from Eating Veal.—Sixty students of Vassar College are reported to be seriously ill from having eaten improperly cooked veal.

MEDICAL PROGRESS.

Pneumonia Following Anesthesia.—WHITNEY (*Boston Med. and Surg. Jour.*, Septemper 23, 1897) says that attention has been called to the supposed increasing frequency of pneumonia after operations when ether has been employed as an anesthetic. There is no reason to suppose that this is a more common occurrence at present than formerly. It appears so, partly because other infectious processes have been eliminated to such an extent that this one stands out more prominently. Anesthesia-pneumonia does not differ from other types of pneumonia. There are plenty of microbes in the mouth of a healthy individual, but under ordinary circumstances they are rendered harmless. Under certain conditions this power fails, and a septic pneumonia results. Experiments upon animals have shown that prolonged etherization is one of these conditions.

The practical conclusion is that disinfection of the mouth before anesthesia should be carefully attended to, while the etherization should be as short and light as possible. The mouth should be cleansed, especially about the roots of the teeth, and the throat gargled several times with a warm solution of chlorinated soda. This should be done twelve hours before operation and again immediately preceding anesthesia. The following solution will be found of service:

℞	Liq. sodæ chlorinat.	ʒ iij
	Aq. menth. pip.	℥ ij
	Glycerin	ʒ ij.

After which, the thorax and tonsils should be sprayed with a solution of peroxid of hydrogen, one part water to three parts of peroxid. Then the nose should be douched with a saturated solution of boracic acid, to which half a teaspoonful of salt has been added. As a last detail, the cone or sponge used for the anesthesia should be sterilized for each patient. Though this may seem like an excess of nicety in preparation, one never knows in which case these precautions may save the life of a patient.

A New Method of Treating Fracture of the Jaw.—HANSY (*Centralbl. für Chir.*, October 9, 1897) recommends the following as the best method of treatment for fracture of the jaw: After the complicating wounds of the gums and external skin have been properly cleansed the fragments of the jaw are replaced as carefully as possible by means of manipulations with the fingers and by pressure of the jaws together. Next, a piece of iron, copper, or zinc wire, flexible and strong, is bent so that in shape it approximates the inner margin of the teeth. It is bent around the back teeth, and brought together in the middle line, and the ends twisted lightly together. Then, a number of pieces of fine wire such as florists employ are passed between the teeth, and with them the anterior and posterior portions of the heavy wire are bound together. When the character of the teeth will permit it, the wire is wrapped around their necks. In this way the heavy wire is firmly fastened in position. If necessary the wires may be tightened on the following day. If the apparatus is efficiently applied the fragments will be held so firmly in position that neither accidentally nor by pressure of the fingers can they be disturbed. With this method, Hansy has obtained excellent results in the treatment of three complicated fractures of the jaw, two of them being of the lower and one of the upper jaw. One advantage of this method is its great simplicity, nothing being required but wire, a pair of pincers, and cutting-forceps.

Proof of the Existence of Meconium.—SCHMIDT (*Centralbl. für Gynäkol.*, October 9, 1897), as a result of investigations has determined that meconium outlasts in the corpse by a considerable time all other tissues which are not free from water, such as bones, teeth, hair, etc., excepting such pathologic products as calcified tissues, concretions, etc. If meconium in considerable quantity is exposed to the air for six months or more, it dries only slightly, and in a thickened condition it is still easy to demonstrate both macroscopically and microscopically its anatomic characteristics. It is also easy to find microscopically, the characteristic points of meconium from spots or stains which are eight or nine years old. The particles of meconium are not bits of the coloring matter of bile, but are shrunken and partly degenerated cells, also cells of the vernix caseosa which has been swallowed, and cast off epithelial cells of the intestines which are stained with bile. The distinction sometimes referred to between yellow and green meconium is an artificial one. The evaporation of the water contained in yellowish-brown meconium, and the shrinking of the cells which results from it produces meconium of a greenish-black color.

THERAPEUTIC NOTES.

The Use of Senecio in Disorders of Menstruation.—FOTHERGILL (*Med. Chronicle*, September, 1897) reports his personal observations with senecio in disorders of menstruation. He used a tincture of *Senecio Jacobea*, 1-10; also, a 1-1 aqueous and alcoholic extract of the same plant; also, a dried extract. The doses used were 1 to 2 drams of the tincture, 20 to 30 minims of the fluid extract, and 1 grain of the dried product. Three or four doses were given daily. He found that senecio does not cause abortion, but will cure most cases of functional amenorrhea. In cases of anemia and other conditions of exhaustion due to disease, the drug was found to have little effect. It proved useful in certain cases of dysmenorrhea, but the relief was uncertain. In six healthy married women the administration of the drug caused the menstrual flow to appear from three to nine days before it was expected.

Ivy-Poisoning.—SCHONBERG (*Phila. Polyclinic*, October 16, 1897) says that none of the remedies used in the treatment of ivy-poisoning are specific. All of them are designed to relieve the itching and burning and subdue the inflammation, Of almost equal value are: (1) saturated solution of boric acid; (2) fluid extract of grindelia robusta, 1 dram to 4 ounces of water; (3) aqueous solution of sodium hyposulphite, 1 dram to the ounce, (4) Laborraque's solution, 25 to 50 per cent.; (5) black wash, diluted one-half with lime water; (6) bromin, 10-15 minims to 1 ounce of olive oil.

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SATURDAY, NOVEMBER 27, 1897.

MEDICAL JOURNALS AND COLORED COVERS.

ON the title-page of the *Medical Record* for November 20th, we find in large type a notice to the effect that "The next issue will be a special number, with many attractive features, including a handsome colored cover." Think of it, you busy practitioners, struggling perhaps with a desperate case of pneumonia or a dangerous temperature in a puerperal woman, and hoping that your next week's medical journal will bring some helpful suggestion to aid you in the emergency! A colored cover! What comfort, what support, what help in your hour of need! And perhaps within that cover, instead of medical science, will appear many well-paying advertisements of winter-resorts and railroad transportation lines.

This cover in itself will doubtless stir the world of the provincial Medicus to its depths, and, incidentally, bring in bushels of subscriptions. We once heard the *Medical Record* spoken of as a scientific journal, but how greatly will its prestige be enhanced when it breaks upon an unoffending professional public in all the gorgeousness of the colored cover! With what breathless expectancy do we await this advance in medical journalism?

DOES INDIGENOUS PULMONARY TUBERCULOSIS EXIST IN COLORADO?

IT can scarcely have escaped the notice of the careful observer of current literature, lay as well as medical, that during the past few years there has been an increasing number of patients with pulmonary tuberculosis in Colorado, without considering imported cases. The conclusion has been drawn that Colorado will eventually lose its reputation as a State free from indigenous disease of this character, and *pari passu* its high renown as a health-resort for consumptives. So serious has this prospect seemed to some of its inhabitants, that they have advocated the passage of stringent laws regulating the residents and habits of life of tuberculous patients, which, if enacted, would certainly have the effect of very greatly reducing the number of persons having tuberculosis who otherwise would seek health in Colorado.

According to Bonney (*Boston Med. and Surg. Jour.*, October 7, 1897), all this excitement is premature. "I am convinced," says this writer, "that as yet the data introduced upon this subject are entirely too meagre to warrant positive conclusions as to the supposed evidences of contagion in our community. I protest, therefore, against an undue agitation at this time, on the ground of insufficient testimony."

The reports of the Denver Health Department seem to show that the number of deaths from tuberculosis contracted in Colorado, is each year greater than during the preceding year. Thus in 1893, the native cases formed 13 per cent. of the total tuberculous death-rate; in 1894, 14 per cent.; in 1895, 15 per cent., and in 1896, 18 per cent. Bonney says that "these figures are not in every respect accurate, and that they are especially misleading, because the yearly increase in the relative percentage of deaths from native tuberculosis is due, not to an actual increase, but to a decrease in the number of deaths from tuberculosis elsewhere contracted, the practice of sending hopeless cases home to die, apparently being more faithfully carried out now than formerly."

Colorado suffers too, from the fact that an unusually high proportion of her children are of tuberculous parentage, and, therefore, are peculiarly prone to contract the disease. Hence, it is not surprising that, of 230 deaths from native tuberculosis which have occurred during the last four years, one-fourth were of

children under five years of age, and a considerable portion of these were from tuberculous meningitis, the development of which results as little perhaps from direct external contagion, as any variety of tuberculosis.

So far as clinical testimony is concerned, it is overwhelmingly against these conclusions which, strangely enough, have been advocated by the local health board. In the article referred to, Bonney quotes the views of a number of prominent physicians to this effect. As an illustration, the statement of Gardiner[1] may be taken, that in fifteen years preceding 1892, the physicians of Colorado Springs had observed only ten native cases of tuberculosis. "The well ones," says this writer, "are frequently confined with the sick, with the attendant anxiety, work, and worry, and there are many houses in which numbers of people have died from the disease." More recently, Solly,[2] also of Colorado Springs, is quoted as saying: "At least one-third of our population are consumptives; the town, which contains some 15,000 people, has been established twenty years. An inquiry made by interested physicians into the number of cases known to have originated in the town resulted in a report of twenty in all. Although it is probable that our brilliant sunshine and dry air more quickly destroys the vitality of the bacilli than an Eastern atmosphere, yet in the poorer lodgings of the town there are many ill-ventilated rooms, inside or on the north side of the buildings inhabited by consumptives and their families, where recklessness of expectoration and carelessness of ordinary cleanliness are marked features of domestic *ménage*. Yet cases of contagion do not average more than one a year."

Bonney also makes the point that there is, in many of the instances of death reported as due to tuberculosis contracted in the State, no sufficient demonstration that the disease was really so contracted. Aside from the fact that autopsies are a constant proof that tuberculosis may exist unsuspected, it is no uncommon experience with physicians in health-resorts for consumptives to find the disease in the supposedly healthy relatives who accompany the patients.

The practical bearing of the whole subject seems to be, that considering the vast tide of actually or potentially tuberculous individuals which has risen to the very mountain-tops of Colorado, there is a remarkably small amount of indigenous tuberculosis. Whatever relative importance may be attributed to the predisposing and exciting causes of this disease, it is admitted by all that with reasonable precautions concerning sputa, the danger of infection is practically nil; and even without these precautions, the danger of infection in the open air is exceedingly slight. The situation is one which calls for the exercise of intelligence rather than the enaction of harsh restrictive laws.

[1] *American Jour. Med. Sciences*, July, 1892.
[2] *Boston Med. and Surg. Jour.*, April 1, 1897.

WATER-BORNE TYPHOID.

EVER since the acknowledgment of the bacillus described by Eberth and Gaffky as the direct etiologic factor of typhoid fever, pathologists have believed, and clinicians have gradually come to accept the verdict, that the disease can only be produced by the ingestion of the bacillus with the food or drink. Clinical evidence of this mode of the propagation of enteric fever is not wanting, and almost every observer has been able to deduce convincing testimony by the direct tracing of an infection. Any evidence which tends to establish this view upon a surer basis is entitled to consideration. Dr. Ernest Hart, Chairman of the Parliamentary Bills Committee of the British Medical Association, has prepared the report of the committee, which has just been published (Water-borne Typhoid; a Historic Summary of Local Outbreaks in Great Britain and Ireland, 1858–1893).

The report is valuable not only because it leaves no further doubt in the mind of the reader as to the propagation of typhoid fever by the ingestion of infected water, but because it gains authority from a minute analysis of 205 epidemics, all of which had their origin, directly or indirectly, in the manner mentioned. Dr. Hart purposely omits from consideration eight epidemics of the disease because of their doubtful causation, relying upon those of certain origin to prove his position, although the eight epidemics are cited in detail, and leave little room to doubt the mode of infection.

The author first considers polluted wells as assisting in the spread of the disease, and selects several undoubted instances corroborated by bacteriologic examination. He condemns the employment of drinking-water from wells liable to pollution, and urges that "when the local conditions obtaining are such that they must needs cause excremental pollution of the ground around houses, then it is high

time to close all wells sunk in the neighborhood of the pollutions." The New York State Board of Health promulgated a similar proposition many years ago, and its beneficent influence has been shown, in the course of time, among the rural population.

The report next considers the direct pollution of drinking-water by human excreta, as in the careless use of the banks of streams by workmen, and indirectly, as by contamination from leaky sewers. He has been able to trace outbreaks of typhoid fever from these causes not only, but, as well, from cesspools constructed in loose soil with no provisions for making them watertight. He shows that although it may seem safe to throw excreta into privies during a frost, the subsequent thaw may evoke a typhoid epidemic, since the germs of the disease remain actively potent. The author next discusses epidemics caused by drainage from manured fields, by polluted subsoil water, by diluted excreta used as water-supplies, and by river-borne infection. Canals as suppliers of drinking-water are absolutely condemned, and the proper filtration of public water-supplies is urged. Two epidemics are cited as having their origin from churchyard drainage, and the author writes: "Man, however, does not appear content to pollute his drinking-water by the voided filth of the living, but is too often careless in the matter of contaminating his water-supply by the drainage from the resting-places of the dead, and thus it comes about that danger arises from the proximity of burial-grounds to the areas of catchment for watering-pounding purposes."

The report mentions an epidemic during which 322 persons were attacked, and in which the infection was traced to the washing of milk-cans with polluted water. He discusses some minor points in the causation and course of the disease, and concludes by urging the abolition of cesspools where this is feasible, by insisting upon the maintenance of freedom of pollution of the watersheds and gathering-grounds of public water-supplies by condemning the close proximity of water-mains and sewer-pipes.

Although the results of these laborious investigations are not strikingly original, they prove beyond peradventure that typhoid fever is largely a preventable disease, and that the prophylaxis must lie in the hands of the sanitary authorities. This is especially true of large cities the water-supply of which is apt to become contaminated if the most rigid watchfulness is not at all times exercised. The importance of careful scrutiny of the supply of drinking-water can not be too frequently impressed upon local and State Boards of Health, upon whose energy and wisdom the well-being of thousands of human beings constantly depends. In emphasizing this feature of sanitary work as it relates to typhoid fever, the committee has placed all communities under lasting obligations.

ECHOES AND NEWS.

Dr. George T. Kemp.—The appointment of Dr. George T. Kemp to the chair of physiology in the University of Illinois has been announced.

Elected Honorary Member.—Professor Von Röntgen of Würtzburg has been elected an honorary member of the Swiss Scientific Society, Berne.

Russian Medical School for Women.—The newly established medical school for women at St. Petersburg recently opened with 165 students.

Retirement of Dr. W. E. Walters.—Lieutenant-Colonel William E. Walters, deputy surgeon-general, has been retired under the Thirty-Years' Service Act.

Typhoid at Clifton.—The recent outbreak of typhoid fever at Clifton, England, has been definitely traced to milk infection. Nearly 150 cases have been reported.

Druggist Fined.—A New York druggist has been fined $150.00 for practising medicine without a license. This is the heaviest fine yet imposed for such an offense. The Medical Society of the County of New York was the complainant.

Yellow Fever in Florida.—A soldier died on the 18 inst. at the barracks hospital at Fort Barancas, Pensacola, Fla. After making an autopsy, State Health-officer Porter and the surgeon of the post, declared the cause of death to be yellow fever.

Roentgen Society.—At the inaugural meeting of the Röntgen Society, which took place recently in London, England, among other exhibits was a life-sized skiagram of the entire skeleton of a living woman, taken by Dr. W. J. Morton of New York.

Women Sue Druggists.—Two cases are now being heard in Brooklyn, N. Y., in each of which a woman is suing a druggist for $5000 and $10,000 damages, respectively, for prescribing medicine which she alleges caused permanent injuries and impairment of health.

Death of Dr. Mark Olivet.—The death at Geneva, on the 24th ult., is announced of Dr. Mark Olivet, professor of psychiatry in the University of Geneva. Professor Olivet

was the author of numerous publications on medicine and hygiene. He was in his seventy-sixth year.

Typhoid Fever in Glasgow Harbor.—The Russian Volunteer steamer "Kieff." which at present is lying in dock at Glasgow, arrived at that port on the 23d ult. from Russia, *via* Leith, and reported one death from typhoid fever and six of the crew stricken with the disease.

Professor Forel Resigns.—Dr. Forel, professor of psychiatry in the University of Zurich and director of the State Asylum for the Insane, has resigned these offices, owing, it is said, to the attacks made upon him by the press for the part he has taken in opposing the use of alcohol.

Chicago Pathological Society.—The annual address before the Chicago Pathological Society will be delivered on the evening of Friday, December 3rd, by George M. Sternberg, M.D., Surgeon-General of the U. S. Army. The subject of the address will be "Yellow Fever; Its Etiology and Pathology."

Emergency Hospital in the Pension Office.—There are 1800 clerks employed in the Pension Office at Washington, and as some of them are veterans suffering with heart trouble, an emergency hospital has been fitted up in the building for the purpose of caring for any case of sudden illness which may occur.

Bubonic Plague in India.—The plague is still raging in the Poona district. There are now 634 cases in the hospital at Poona. Many new cases are reported daily, and the death-rate is nearly 100 a day. Several Europeans have been attacked with the disease. Business is practically suspended and the inhabitants are deserting the town.

Serum Treatment of Whooping-Cough.—Dr. Violi of Constantinople proposes to treat whooping-cough by means of injections of serum taken from calves which have been vaccinated against smallpox. He has treated a number of cases in this way in which the characteristic paroxysms disappeared within from eight to ten hours after the first injection.

New York Society for the Relief of Widows and Orphans of Medical Men.—The annual meeting of this society was held on the 17th inst. at the Academy of Medicine, Charles A. Leale, M.D., was re-elected president; Henry Tuck, M.D., treasurer, and Drs. G. M. Smith, S. T. Armstrong, W. F. Cushman, J. Cabot, C. H. Knight, A. Jacobi, and J. L. Kortwright, managers.

New Consumption Hospital for Vienna.—A large hospital for consumptives is to be erected, through the generosity of several citizens of Vienna, at Alland, a small hamlet near the city. It is expected that it will be ready for occupancy by the spring of 1898. It covers a large area, and is sheltered on all sides save the south by hills and forests. The building will accommodate about 300 patients, but will be enlarged in the future. It will contain all the latest hygienic appliances.

Department of Public Health.—At a meeting held recently, the New York Board of Trade and Transportation adopted a resolution declaring the health of the people of far more importance than the proposed enlargement of the navy or other preparations for war, and calling for the appointment of a committee to consider the desirability of the establishment of a national department of public health.

Intestinal Parasites in China.—It is said that 95 per cent. of Chinese children suffer from thread-worms. This is supposed to be due to the fact that in China unfiltered water is used, and vegetables are, as a rule, eaten raw. European residents there boil or filter their water and cook their vegetables, and are free from this trouble. The Chinese, however, who rarely eat any meat other than pork, do not suffer with tape-worm, whereas 20 per cent. of the Europeans, who eat a good deal of beef, are especially liable to these intestinal parasites.

CORRESPONDENCE.

THE TREATMENT OF ABORTION.

To the Editor of THE MEDICAL NEWS.

DEAR SIR: I have read with interest Dr. Henry J. Garrigues' article on "The Treatment of Abortion" in THE MEDICAL NEWS of November 6th, and beg to be allowed to offer several criticisms:

1. The author very properly pronounces Thomas' small dull-wire curette as useless for the purpose of emptying the uterus during an abortion, and declares his (Thomas') "large dull-wire curette, with an opening admitting the tip of a forefinger, an admirable instrument for the purpose, formidable as it appears."

I think the author is in error in calling Thomas' large dull-wire curette a "formidable instrument." The only two dull-wire curettes which go by the name of Dr. Thomas, so far as I know, are the small one, which is used for removing intra-uterine vegetations and is useless in abortion, and a somewhat larger one, which I have employed for years in abortions *under two months*, where Dr. Garrigues says he uses Récamier's or Sims' curette or Simon's sharp spoon. I have never found it necessary, by the way, to employ a *sharp* curette in early abortions, or even later, unless there had been an acute endometritis with inflammatory adhesion of the placenta.

The curette which Dr. Garrigues must mean, and which he calls a "formidable instrument," can be no other than the *large dull* curette, attached to a long, stout shank and handle which I first introduced to the profession in 1883 (see *Am. Jour. Obst.*, Feb., 1883). "The Immediate Removal of the Secundines after Abortion" (and which is mentioned and pictured again in my "Report of the Gynecological Service of Mt. Sinai Hospital," *Am. Jour. Obst.*, Oct., Nov., Dec., 1895), and has been sold by instrument-makers under my name all these years. Strange to say, this fact seems to have escaped Dr. Garrigues' notice!

There are two shapes of my placental curette, one round and the other oval, the latter being especially designed for use when the cervical canal is long and not fully dilated. After the second month both can usually be inserted without difficulty through a fully dilated canal. A large flat forceps for the removal of the *detached* decidua accompanies the curettes. The curettes may be used whenever the canal is sufficiently dilated to admit the index-finger, and this brings me to criticism number

2. Dr. Garrigues omits to lay down as a condition indispensable and invariable, I think, for the efficient and thorough use of the curette after abortion, that the uterine canal should be sufficiently dilated to permit the index-finger to explore the uterine cavity to the fundus, in order not only to determine the quantity and location of the retained secundines, but also to enable the operator to be perfectly sure that the cavity has been entirely emptied when the operation is completed.

To trust to the information on this point imparted by the curette alone, even in the hands of the most expert operator, is notoriously unsafe.

3. Dr. Garrigues has omitted to mention that at times great assistance is afforded to the cervical dilators which he mentions by gently nicking the lips of both the external and internal os with a straight, blunt-pointed knife, especially when the edges of the external os are rigid and cicatricial as occasionally happens after a trachelorrhaphy.

I have found the index-finger, assisted by counter-pressure over the fundus with the other hand, as good a dilator as any of the cones or olives, provided it was possible to insert its tip ever so little into the internal os. In incomplete abortion, when any considerable portion of the secundines is retained this can usually be easily done.

4. I cannot agree with Dr. Garrigues' advice and practice to tampon either the uterus or vagina after emptying the former of the products of conception. An *empty* uterus after abortion *always* contracts, and all hemorrhage from its cavity ceases. A failure to contract at that time is an exception. To pack the uterus is therefore unnecessary, and rather tends to interfere with contraction and involution than to aid them. And why pack the vagina? I usually employ a hot sterilized or carbolized intra-uterine douche after emptying an aborting uterus, and I can scarcely recollect a case where prompt contraction and cessation of bleeding did not take place. Only in women very much exhausted from hemorrhage might it be advisable to pack the empty uterus after abortion with iodoform gauze, or better sterilized gauze, in order to save her even the few drops of blood which would ooze away during the first day or two, until she has rallied. At least that is my opinion, and has been my practice for many years, and I have no reason to regret or change it. Of course, if the object of packing the uterus is to influence a septic condition of the endometrium, the case is different. But then it would seem to me that gauze soaked in peroxid of hydrogen or kept moist with the forty-per-cent dilution of alcohol recently recommended by Dr. Ill must be preferable to iodoform gauze as a uterine packing.

With the above exceptions I agree substantially with all Dr. Garrigues has said in his instructive and practical article.

PAUL F. MUNDÉ,
20 West 45th Street.

NEW YORK, November 20, 1897.

OUR BERLIN LETTER.

[From our Special Correspondent.]

ACCIDENT INSURANCE AND CARCINOMA DEVELOPING AFTER TRAUMA—THE PATHOGENEITY OF BLASTAMYCETES AND THEIR CONNECTION WITH CANCER—CLINICAL EXPERIENCES WITH LUMBAR PUNCTURE—THE SPREAD OF ANCHYLOSTOMIASIS THROUGH EUROPE.

BERLIN, November 16, 1897.

AS the result of a discussion which occurred some time ago in the Berlin Medical Society, Dr. I. Boas published in the last number of the *Deutsche Medicinische Wochenschrift* an article on "The Connection between Trauma and Intestinal Cancer, and the Question of the Liability of Accident-Insurance Companies in Such Cases." In a series of sixty-two cases of intestinal cancer in which the previous history and antecedents were carefully studied, he found in nine a clear history of trauma which seemed to have some etiologic connection with the development of the neoplasm. Curiously enough, he found in only two direct heredity (in general, he considers the influence of heredity in cancer much overestimated), though in seven a brother or sister had suffered from cancer. None of these patients with hereditary cancer, however, presented a history of trauma, so that the disturbing factor of a possible hereditary predisposition is excluded in the cases in which an injury is considered to have been the cause of the disease. Dr. Boas does not consider that the injuries were the immediate cause of the development of cancer, but is of the opinion that small cancerous nodules of the intestines, in an absolutely latent and quiescent stage, are irritated into developmental activity by the trauma.

In the discussion, Professor Führbringer and others went further than this, and advanced the opinion that the injury to intestinal tissues had either lessened vital resistance and so given an opportunity for cancerous infection, if cancer is an infection, or had disturbed the equilibrium of cellular elements in the tissues and so occasioned an overgrowth of the epithelial elements, which constitutes a cancer. Any of these opinions, even the most conservative, would give the patient the benefit of the accident.

In insurance, according to German law, it seems it is not necessary to prove that the accident in question was the only cause, or that it was the immediate cause, of the inability to continue one's occupation, of the mutilation, or death which followed. If it stands in a clear causal relation to these consequences, and if this can be demonstrated to the court, then the verdict will be that the insurance must be paid.

As Dr. Boas says, "it is not clear whether these quiescent cancerous nodules would ever have taken on

activity but for the irritation resulting from the trauma, though malignity might have developed about the time of the apparent arousal of the disease by the injury." He considers, however, that the statistics of cancer after trauma are too rich in examples for it to be a mere question of coincidence. He considers that in this connection the only thing still remaining open to discussion is how long after an injury has been received may the development of a cancer be fairly thought to have resulted from a trauma. In his own cases the disease developed at varying periods of from two months to four years subsequent to the injury. He does not seem to consider the shorter interval too short or the longer one too long for the relation of cause and effect to be held as existent. As to shorter intervals than two months, he would hesitate to attribute the cancerous development to the injury, though he seems to think that a longer period than four years might intervene and yet the injury be a causal element in the neoplastic activity.

The question has more important bearings when cancerous disease other than of the intestine is taken into consideration. Many patients with cancer of the breast present a history of injury, even if it be no more than the traditional blow of the nurseling. If accident-insurance companies are liable for cancers which develop after injuries, it will only be a question of time when the courts will recognize that railroad companies and other corporations should be held liable on the same grounds. This involves a vision of long-continued legal proceedings and the consequent precious opportunities for legal and medical experts to discuss a question which ought to prove as profitable in the future as traumatic neuroses, railway spine, etc., have in the past.

Of special interest, in connection with the etiology of cancer, was the discussion on "The Pathogeneity of Blastomycetes and Their Causal Relation to Cancer," which occurred at the last meeting of the Berlin Medical Society. Dr. Buschke read a paper on the subject, the subsequent discussion of which evidenced the consensus of the opinion in the matter. The general sentiment was in accord with Dr. Buschke's idea, who considered that notwithstanding the claims made for it (San Felice of Palermo, and Roncali of Rome) there is absolutely no possibility of blastomycetes being the cause of cancer. Dr. Buschke himself has experimented with cultures of blastomycetes, which had, under the influence of electricity and artificial brooding temperatures, been rendered especially virulent, but he has never been able to cause the appearance of a tumor in any way resembling cancer in a series of some twenty cases with which he experimented.

On the other hand, now that special attention has been called to the subject, the pathogeneity of blastomycetes for various animals and for man is becoming better know with further clinical and experimental experience. Here the doctor made his acknowledgments to American experimentors—Curtis, Gilchrist, and Rabinovitch. He considers that the subject of the pathogenic yeasts which is just opening up will yet prove an extremely interesting branch of microbiology.

While the neurologists decry the frequent use which is made of lumbar puncture for diagnostic and therapeutic purposes, and oppose, on theoretic grounds, its employment except under the most urgent circumstances, the practitioner, and especially the specialists in diseases of children, are coming to consider it more and more as a simple and extremely useful diagnostic method with scarcely any attendant risks. As the neurologists oppose it on theory while the practitioners can point to a large number of cases in which the procedure has not done any harm, it is clear what impression the profession in general is going to have of this difference of opinion.

At the last meeting of the Society for Internal Medicine Dr. Stadelman reported a series of cases in which lumbar puncture had been made without accident or even inconvenience, and he considers that now the purpose of the procedure, at least as regards diagnosis, may be widened in its application. It is useful not only in distinguishing the forms of meningitis, and the existence of intrameningeal pressure from hydrocephalus, and brain and spinal tumors, but also for the differential diagnosis of other conditions simulating central nervous affections.

When, for instance, a state of stupor has intervened during one of the infectious fevers and the absolute prognosis will depend upon whether or not the serous membranes of the cord and brain have been infected by the specific virus, lumbar puncture will often decide the otherwise extremely difficult question. When an obscure unconsciousness is present the condition of the cerebrospinal fluid will often furnish valuable diagnostic evidence. In these cases the risk of any serious result is extremely slight, while in some instances the relief of cerebral pressure has an immediate beneficial effect. It is only in cases of acute increased intracranial pressure, however, that Stadelman has ever seen any good effect resulting from this procedure. He considers that the diagnosis of hemorrhage into the brain or cord is possible when the cerebrospinal fluid is found uniformly tinged with blood. As to the bacteriologic examination of the fluid, he considers that negative results either microscopically or even by culture methods cannot be relied upon for diagnostic purposes, and it is only when the results are positive that reliable conclusions may be reached.

One of the striking things in all clinics at which patients suffering from anemia are presented is the care taken from the first to exclude the anchylostomum duodenale as the cause of the condition, though why, since it is oftenest found in the jejunum or upper part of the ileum, while the duodenum is often entirely free, is not quite so clear as it might be.

Twenty years ago the parasite was practically unknown here. When the St. Gotthard cases occurred the explanation of their etiology came as a distinct surprise; for the parasite was considered endemic only in Egypt, and perhaps in parts of Italy. Since Grawitz found four cases in the neighborhood of Berlin some three years ago a number of cases from all over Germany have been described, and this parasite is no longer considered a rarity. At the present time the stools of every patient suffering with severe anemia are examined for the anchylostomum. The spread of this parasite has been traced to the introduction

of Italian workmen for trench- and tunnel-work, and for brickmaking. One case is known to have infected a large number of workmen. As it is just this class of men that we, in America, are receiving from Italy, it would seem to be only a question of time, unless special precautions are taken, until our clinicians will also have to think of this parasite in their cases of anemia.

TRANSACTIONS OF FOREIGN SOCIETIES.

Paris.

CONTUSIONS OF THE ABDOMEN—TREATMENT OF INOPERABLE MALIGNANT TUMORS BY LIGATURE—THE LAST WORD ON FORCIBLE REDUCTION IN POTT'S DISEASE—SIMILAR TREATMENT OF SCOLIOSIS—RELATIVE VALUE OF NEPHRECTOMY AND NEPHROTOMY—RADICAL CURE OF HERNIA IN YOUNG CHILDREN—INDICATIONS FOR OPERATIVE TREATMENT OF CANCER OF THE RECTUM.

THE Eleventh Annual French Congress of Surgery was held at Paris October 18 to 23, 1897. A paper by DEMONS on *Contusions of the Abdomen* brought out widely different views upon the indications for operations in these cases. The conditions under which the various abdominal organs may be injured, and the most reliable points in diagnosis were given at length. In regard to prognosis, the writer said that medical treatment, directed toward the relief of shock and pain, the arrest of hemorrhage and the maintenance of immobility of the affected organs, has given such good results that surgeons are unanimous in employing it. It is in the cases which are between the extremes that opinions differ as to the course to be pursued. Recognizing the failure of medical measures in many cases, surgeons often take a position which may be called one of "armed expectancy," and defer operation until signs, which cannot be met by medical treatment, are manifested. Experience has shown that these signs rest, not upon the lesions themselves, but upon complications already present at the time the signs become obvious; such as peritonitis or intestinal perforation. Hence, while not entirely rejecting this "armed expectation," it is a dangerous doctrine to advocate.

Theoretically celiotomy is a satisfactory procedure in these cases, offering as it does, an opportunity to prevent or to relieve complications including hemorrhage, infection, abscess, etc., but practically it has not fulfilled our expectations. Future results will probably be better than those so far obtained. The operation should be performed as early as possible, and the best time seems to be between the symptoms caused by the accident, and those which develop later, that is to say, within the first twenty hours. The sole contraindication to an immediate operation is the existence of shock so profound that the patient will not withstand a surgical operation. A young man who was kicked by a horse was operated upon twelve hours after the accident. Although three liters (quarts) of blood were found in the peritoneal cavity, from a contused wound in the liver, the patient recovered. The writer said that he did not believe this patient would have recovered had operation been delayed, and had it been sooner performed, the patient would ertainly have died upon the operating-table.

DENTU said that lesions of the kidney and bladder are easy to diagnose, which is not true of other abdominal injuries. Lesions of the abdominal wall are not of great assistance in diagnosis; but a hyperesthesia of the abdomen is an indication for operation. An increase in the respirations to twenty-eight or thirty per minute he considered an absolute indication for operating. Cold extremities are also significant. Suppression of the secretions, not to be confounded with retention of urine, points to the necessity for immediate interference. In the consideration of shock, it is important to determine whether it be of nervous origin or due to the loss of blood. In the latter case, if the symptoms are becoming constantly more accentuated, there is no reason for a moment's delay in operating. In other cases, it is better to wait for an hour or two after the accident before operating. Undoubtedly cases of grave contusion of the abdomen may exist without giving rise to symptoms, but their number is far less than it was before the symptoms were as carefully noted as they are at present.

According to MICHAUX celiotomy is the only treatment to apply in contusions of the abdomen. It has been sufficiently demonstrated that the symptoms are not an adequate index of the gravity of the lesion or lesions; and if we cannot tell what the injuries are, the only thing to do is to investigate. True, Mendy found that in 289 cases of contusion from the kick of a horse, thirty per cent. of the non-operated patients died; and also seventy-one per cent. of those operated upon. These figures have no value; for in many instances no details were given, and in 18 out of 25 fatal operative cases, peritonitis was already established. Of the speaker's own cases, 20 in in all, 14 of the patients were operated upon, with 2 deaths, while of the 6 not operated upon 2 died. He denounced the doctrine of "armed expectancy" as absolutely unreliable.

MOTY is an advocate of opium if operation is not performed. He regards the use of ice in such cases as productive of grave complications—notably of phlebitis.

DOYEN spoke of the use of a jet of vapor to control hemorrhage from the contused liver or omentum, as advised by Sneguirev. The remedy has antiseptic as well as hemostatic virtues. If a tampon is employed, it is well to shut off the surrounding peritoneal cavity by a few sutures. Large blunt glass drains are inserted, the outer end being connected with a rubber tube which falls into an antiseptic solution. In this way the abdominal cavity is kept sterile, and if necessary may be pumped out.

TUFFIER has revived the *treatment of inoperable malignant tumors by ligature.* In the pre-antiseptic days this method of treatment was productive of very bad results. Under aseptic precautions he has obtained results in some instances which were most satisfactory. Thus, by tying the four arteries supplying the uterus in a woman afflicted with an epithelioma, the growth diminished to such an extent that after sixteen months the patient had very little trouble from it. In cancer of the tongue, lig-

ature of the external carotid gave him only a temporary improvement in seven cases. Infection may be limited in a similar manner. Thus, he tied the pedicle of a suppurating kidney in a patient who was too septic for a nephrectomy, and in whom nephrotomy was contraindicated by the multiplicity of the abscesses. The toxic symptoms disappeared at once, though the patient died two months later of suppuration of the other kidney.

BOSQUET succeeded with this treatment in several cases of neoplasms of the face. HARTMANN found it to be of value in fibromata of the uterus, though it had not been successful in epithelioma of the uterus.

CALOT gave further *details and results of the treatment of Pott's disease by forcible reduction.* A traction of 60 to 160 pounds is made for some seconds; the deformity obliterated by a direct pressure of from 30 to 80 pounds; finally, a bandage is firmly applied. Very large or very old projections are reduced in several *séances*, separated by an interval of three or four months. Of 204 children treated by this method, 2 died in a couple of days, 3 in some months of brochopneumonia and meningitis; in 1 patient partial paralysis occurred within a few days, while in 2 others intervention was followed by the formation of an abscess.

From observation of thirty-five cases, REDARD regards this treatment of Pott's disease as most valuable and calculated to give relief in a great number of cases. Ankylosis and large abscesses are contraindications to its employment.

CALOT also *applies this form of treatment to scoliotic patients*, reducing the deformity as much as possible by an apparatus especially constructed for the purpose, or by means of a plaster cast. The jacket should be changed every three months, and, if necessary, the correction of the remaining deformity is attempted each time. From a year to eighteen months are required for completion of the treatment.

ALBARRAN has *removed a kidney for a tuberculous process* eight times with one death. Five of the survivors are apparently definitely cured, having gone from fifteen to thirty months without evidence of further trouble.

Of 11 patients upon whom he performed nephrotomy for tuberculosis, 1 died from the operation, and 7 others died in from three to seven months; hence, in cases of miliary or caseous tuberculosis of the kidney, uncomplicated by pyonephrosis, removal of the kidney is far better than its incision; but in any case one should assure himself of the presence, and as far as possible of the functional activity of the other kidney before performing a nephrectomy. Genital and vesical lesions are rarely contraindications to operation.

FROELICH advocated a *radical cure for hernia in all children over ten years of age.* To save time and avoid hemorrhage, the sac is neither extirpated nor even isolated, but its neck is closed by passing through it one of the sutures used to draw together the pillars of the ring. If the sac is too large for the accomplishment of this procedure, enough of it is isolated to permit of the application of a ligature.

BROCA said that there were undoubted instances of cure by a bandage when the hernia had existed two years; but that he preferred the radical operation, because the treatment with a truss is so tedious. To suture or ligate the neck of the sac under pretence of hastening the operation, is not a good practice. The radical cure of a hernia depends upon the high dissection of the sac, and when this is well done, it is possible to make a successful operation either with or without buried sutures. Even with a complete dissection, the operation need not exceed ten minutes in length.

Frölich recommended in cases in which pelvic drainage is necessary in the male, that it should be secured through the posterior wall of the pelvis. This is accomplished by following the right border of the cecum, until the finger comes upon the level of the lesser sacrosciatic ligament. Then with a Wolfler's clamp, a drain may be pushed through the pelvic wall at this point. The clamp will protrude at about the middle of a line drawn from the posterior superior iliac spine to the most prominemt part of the ischium. No one who has not attempted this procedure will appreciate how easily it may be accomplished.

QUENU and HARTMANN presented the *indications for and the operative treatment of cancer of the rectum*, and the different methods thereof. The radical operation in the hands of the best surgeons has a mortality of about twenty per cent., fully thirty per cent. of the deaths being due to sepsis in some form. A high situation of the cancer is no contraindication for operation; secondary deposits in organs within the abdomen of course exist. An iliac fistula should be established at least ten days before the rectal resection, as it is not possible to disinfect the rectum in less time. Then, in spite of the most thorough washing of the bowel with permanganate of potash, nitrate of silver, etc., the task is still imperfect, and immediately before operation the sphincter should be dilated, and the rectum, as well as the lower limb of bowel at the artificial anus, should be swabbed dry with sterile gauze, and finally tamponed.

If the growth involves only the lower bowel, the perineal operation will suffice, even when it has extended to a height of six inches, if the coccyx be removed. If a more extended involvement is present, or if glands, etc., are to be removed, the sacral route is preferable. If the disease is "total," *i.e.*, commencing at the anus and ascending to the third sacral vertebra, the perineal route is again preferable. The anus should be closed, and after the upper cut end of the bowel is sutured, the artificial anus should be made permanent.

In these opinions BOECKEL, GALLET, HEYDENREICH, and others concurred. GALLET called attention to the superiority of the vaginal route for low rectal cancer in the female.

DOYEN and JUILLARD spoke of the relief and prolongation of life to be obtained by an artificial anus. From two three years of comfort is often gained by it. POLLOSSON said that after operation the anus should not be closed. DOYEN does not ordinarily precede the radical operation by an artificial anus; but at the time of the major operation he brings a loop of the sigmoid to the

surface in the groin, and opens it three days later if the patient's condition warrants the additional procedure.

Vienna.

THE ETIOLOGY OF TRACHOMA—TREATMENT OF HAY-FEVER AT CARLSBAD.

At the Imperial Royal Society of Physicians MULLER discussed the *etiology of trachoma*. In the conjunctival secretion of trachoma patients he has found a bacillus morphologically identical with the influenza bacillus. It is 0.2–0.4 μ in length, stains with carbolic fuchsin and alkalin solutions of methyl blue, and does not react to Gram's test. It grows only in media which contain blood. Thus far, as already said, no difference has been found between this bacillus and that of influenza, either in appearance or method of growth, but the investigator refrains from stating that the two are identical. He found this bacillus in eleven out of fifteen trachoma cases, and was unable to find it in the healthy eyes of several patients suffering from influenza. In three instances, the bacillus was demonstrated to exist in the tissues of the conjunctiva almost as a pure culture. In twenty-five cases of non-trachomatous conjunctivitis with abundant discharge it was not found in a single instance. However, out of sixteen cases in a light epidemic of trachoma occurring in a regiment of soldiers the bacillus was only found four times. Under these circumstances it seems probable that the bacillus which was isolated is really the cause of trachoma, although further experiments are desirable, particularly inoculation experiments. It will be very difficult to succeed in the latter because a favorable disposition toward a growth of the bacillus is probably necessary. This would explain, for instance, how trachoma can exist for years in one eye, while the other eye remains unaffected.

At the session of the Vienna Medical Club, held October 20th, MULLER of Carlsbad, described his *experience with a number of American patients suffering with hay-fever*. All of the patients except two were men. All of them were individuals who appeared to be overworked and all of them suffered from gastric and intestinal disturbances in addition to the usual local symptoms of this disease. Treatment was, therefore, directed to the alimentary canal and the upper respiratory tract. Carlsbad water was given in abundance, and the mucous membrane of the nose was touched with a twenty-to-thirty-percent. solution of silver nitrate, and immediately thereafter sprayed with Carlsbad water. The effect of the nitrate was to produce an immediate increase of the secretion which was again diminished under the influence of the spray. After about ten applications the irritability was diminished, and the nose touched with a solution of menthol and resorcin, equal parts, in spiritus vini dilutus (3, 3, and 14 parts). By this treatment the patients were not absolutely cured, but they had no further attacks, and were so much improved that they were able to return with comfort to America and without fear of a fresh attack, when in previous years it had been necessary to await the coming of winter before it was possible to go home.

SOCIETY PROCEEDINGS.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Tenth Annual Meeting, Held at St. Louis, Mo., November 9, 10, and 11, 1897.

FIRST DAY—MORNING SESSION.

THE meeting, the sessions of which were held at the Southern Hotel, was called to order by the President, DR. GEORGE BEN JOHNSTON of Richmond, Va.

DR. C. A. L. REED of Cincinnati read the first paper, entitled

GALL-STONES IN THEIR RELATION TO CANCER OF THE GALL-TRACT.

The paper was based upon a report of four cases in which a distinct gall-stone history had preceded that of malignant disease. The diagnosis had been confirmed in all of them by exploratory incision, and in two by autopsy.

CASE I.—Woman, aged fifty-two years. She had hepatic colic during the five preceding years, associated with all of the usual gall-stone symptoms. During the previous thirteen months pain in the right hypochondriac region had been constant. Within the preceding six weeks persistent jaundice had developed. Globular tumefaction was detected below the right costal margin. Exploratory incision revealed primary carcinoma of gall-bladder and gall-tract with secondary development in the liver. Diagnosis confirmed by autopsy.

CASE II.—Male, aged sixty years, who had gall-stones twenty years, confirmed by their frequent passage *per via naturales*. Patient had undergone rapid emaciation, and during the preceding month pain had become constant. More latterly he became profoundly jaundiced. No physical symptoms could be detected. Exploratory incision revealed carcinoma of the gall-bladder and gall-ducts with secondary nodules in the liver. A calculus was found in the common-duct, and disintegrated by needle puncture. Primary recovery with amelioration of all symptoms, followed by death four months later; no autopsy.

CASE III.—Woman, aged forty-five years, who had had hepatic colic for several years. During the preceding six months she had been profoundly jaundiced; lost flesh rapidly. Examination of the blood revealed marked cholemia. There were no physical symptoms in the right hypogastrium. Exploratory incision revealed induration about the head of the gall-bladder and common-duct, to both of which the duodenum was firmly attached for a distance of several inches. A calculus could be felt within the common-duct just within its orifice. This could not be dislodged by prudent pressure or disintegrated by needle. It was delivered by incision through the duodenum. Patient never rallied, but died within thirty-six hours after the operation; no autopsy.

CASE IV.—Man, aged fifty-two years; confirmed alcoholic. Had severe attacks of hepatic pain during preceding fifteen years. Last attack was persistent and continued over six weeks. In addition to the usual symptoms

he complained of sweating and had a vacillating temperature. Operation revealed empyema of the gall-bladder with induration at its duct end. The gall-bladder was stitched to the abdominal incision and drained. Death occurred one week later; autopsy revealed carcinoma of the ducts at their juncture. Numerous small calculi were found in the hepatic duct well up in its main trunk, and in a number of the smaller branches. Multiple abscesses were found in the liver substance.

These cases have a suggestive significance, and point to an etiologic relationship. This is explained by the result of persistent irritation of the foreign bodies upon the mucous surfaces, inducing hypertrophy, cell proliferation, and in the event of the existence of original tendencies to cancer of prenatal origin, induces rapid development of the malignant neoplasm.

DR. EDWIN RICKETTS of Cincinnati reported two interesting cases of cancer which he believes were due to gall-stones. He said Courvoisier had found malignancy in seventy of eighty-four cases of gall-stone.

DR. JOSEPH EASTMAN of Indianapolis reported a case which had come under his observation within the last two weeks and which confirmed the remarks of the essayist. He believes that cancer of the gall-bladder and gall-ducts, as in the uterine cervix, is often the outgrowth of prolonged local irritation.

DR. JAMES T. JELKS of Hot Springs, Ark., has seen cancer of the liver unmistakably produced by gall-stones; hence, the deductions of the author in urging operative interference in all cases to prevent carcinoma of the liver were prudent.

DR. RUFUS B. HALL of Cincinnati expressed himself as being firmly convinced that the deductions drawn from the paper would be sustained by future work in this direction. Nine cases tabulated by him confirmed the conclusions of the essayist.

DR. A. M. CARTLEDGE of Louisville, Ky., said that in many cases presenting a history of the passage of gall-stones, the patient may have had beginning carcinoma of the ducts two or three years previously. He endorsed the views of the essayist relative to operative interference in cases of gall-stones.

DR. L. MCLANE TIFFANY of Baltimore thought the causative relation between gall-stones and cancer was not yet well established; but that cancer is frequently accompanied by gall-stones is well known.

DR. THADDEUS A. REAMY of Cincinnati took a more conservative ground, and thought the Association ought not to go on record to the effect, that because gall-stones are associated with cancer of the abdomen, that every man or woman having gall-stones, must necessarily be operated upon lest he or she, as the case may be, may possibly have cancer.

DR. REED, in closing, again emphasized the significance of the persistent coincidence of cancer in long-standing gall-stone disease. His own brief experience embraced cases in which there had been a long-standing gall-stone history.

DISPOSAL OF THE STUMP AFTER REMOVAL OF THE APPENDIX

was the title of a paper read by DR. W. D. HAGGARD, JR. of Nashville, Tenn. The author considered appendicitis preeminently a surgical affection. Isolation of the infected appendix is as essential as the hygienic isolation of any of the infectious diseases. The various methods of disposing of the stump by invagination were discussed, and the modifications and technics employed by Van Hook, Dawbarn, McBurney, Murphy, and Morris were described. The ideal of all surgery is completeness which, when applied to the surgery of the appendix, means total extirpation of the organ. He then described the following method practised by Deaver in suitable cases: After freeing the appendix from adhesions and meso-appendix, the cecum is stripped of its contents and grasped between the fingers and thumb of the left hand, the appendix being held by forceps and cut off flush with the colon, and is then united by continuous Lembert sutures, during which the cecum is still securely held with the left hand just as in a gun-shot or stab wound of the intestine. Sutures may be inserted in two layers: (1) uniting the edges of the wound, and (2) approximating the peritoneal covering to the cecum over it. This method is not applicable to cases where the cecum is bound down by adhesions which prevent its delivery in the abdominal incision. This procedure does away (1) with subsequent perforation of the stump under the ligature from infection in its own cavity, (2) abscess of the wall of the cecum from invagination of the infected stump, (3) continuance of an infective process from stricture of the stump between the distal ligature and the proximal opening of appendix into the cecum, (4) imperfect invagination with incomplete drainage of the stump on account of the cecal wall being thickened and stiffened with inflammatory exudate. The author has employed this method in five cases with entire satisfaction.

REPORT OF FOUR CASE OF ABSCESS OF THE UTERUS,

was the title of a paper read by DR. GEORGE H. NOBLE of Atlanta, Ga. The first case was one of puerperal origin, the operation being done at the end of the second week. There was a pus-tube and abscess of the left ovary. The appendages on the right side were normal. After separating extensive adhesions for unilateral disease, an abscess of the fundus uteri about the size of an ordinary lemon was discovered which was excised, curetted, and cauterized with carbolic acid. The cavity extended from the median line to the stump of the appendages on the left side, which latter was turned into it, and fastened with sutures to prevent the formation of a dead space. A glass drain was placed in Douglas' pouch after flushing the abdominal cavity. The woman made an uneventful recovery, and has continued to be without pelvic disturbance. The histories of three other cases were detailed by the author. The four cases show what a surgeon will sometimes do for a septic uterus when given a chance. They also support the view that it is not always necessary to extirpate the uterus in suppurative inflammation of its parenchyma, and that such operations should be confined to cases in which the uterus is thoroughly septic or riddled with abscesses.

DR. A. M. CARTLEDGE said that the results following

the method pursued by the essayist were better than those of hysterectomy for infected uteri complicating the puerpery.

DR. J. WESLEY BOVEE was pleased with the advanced position taken by the author of the paper. Gynecologists had to fear, however, that, following this method, the future usefulness of the uterus might be impaired; it might tend to the production of rupture of the organ during subsequent labors.

DR. T. J. CROFFORD said that in cases of abscess of the uterine wall originating from the mucous membrane, if the cervix is dilated, the uterine cavity emptied with a curette, thoroughly cleansed and packed with iodoform gauze, these abscesses will open through the endometrium, which event will be followed by relief in the majority of cases.

DR. RICHARD DOUGLAS treats cases of infection following abortion or full-term labor by the Carossa method with decided benefit.

DR. W. E. B. DAVIS said that uterine abscesses complicating the puerpery can be successfully treated by incision and drainage in a large proportion of cases, even though they extend beyond the uterus. Illustrative cases in which this treatment was employed were cited.

DR. R. M. CUNNINGHAM said it was extremely difficult in general surgery to get primary union after curetting and disinfecting abscesses, in that it was almost impossible to destroy the staphylococci, and more particularly the streptococci, which perhaps have already extended beyond the abscess wall.

DR. NOBLE, in closing, emphasized the point that the uterus is the seat of infection, and not the appendages. Only in cases where there are one or two, or possibly three abscesses, is this method of treatment applicable.

A paper, entitled

A STUDY OF RETROPERITONEAL NEOPLASMS AND SUPPURATIONS WITH SPECIAL REFERENCE TO DIAGNOSIS,

was read by DR. RICHARD DOUGLAS of Nashville, Tenn. The author accepted the definition of Mr. Lockwood of a retroperitoneal neoplasm; *vis.*, a solid or cystic tumor growing behind the peritoneum into the fold and not connected with any of the great retroperitoneal organs. He then dwelt at length upon the pathology of these growths and their causation. While not an advocate of the use of the aspirator in intra-abdominal diagnosis, yet, under proper conditions, the author thought that this instrument will reveal valuable evidence, not only as to whether a growth is solid or cystic, but as to its character. In retroperitoneal sarcoma aspiration reveals only a little blood or blood-serum in the needle. This sign enabled Weir and Bull to correctly diagnosticate a case reported by Devlin.

TUBAL AND OVARIAN HEMORRHAGE RESEMBLING RUPTURED ECTOPIC PREGNANCY,

was the title of a paper by DR. J. WESLEY BOVEE of Washington, D. C. The author said that a few years back pelvic hematocele was a condition which every practitioner appeared to meet occasionally, and many were the supposed causes of it. When the subject of ruptured tubal pregnancy was so universally studied some of the most aggressive investigators told us to search in every case of pelvic hematocele and a ruptured ectopic pregnancy would be found. This dictum, though not endorsed by all observers, found a ready following, and up to the present time the majority of students of diseases of the female pelvic organs have accepted it. Many cases have been reported in which a presumptive diagnosis of ruptured tubal pregnancy has been made—cases in which such symptoms as shock, sharp pain, irregularity of menstruation, even amenorrhea, the presence of a small tumor in the pelvis, and possibly a fatal termination, and yet autopsy failed to reveal pregnancy; but, instead, hemorrhage from a Fallopian tube, ovary, or both. The speaker offered conclusive evidence against the positive statements which have been made. There are many instances in which women are deeply wronged by these diagnoses. These hemorrhages result from ectopic pregnancy, from malignant disease of the uterus, appendages, or rectum; from varicose veins of the broad ligaments, from disease of the appendix, from inflammatory disease of the tubes and ovaries, and from many other causes.

FIRST DAY—AFTERNOON SESSION.

DR. J. G. EARNEST of Atlanta, Ga., reported an interesting case of

EXTRA-UTERINE PREGNANCY OPERATED UPON AT THE SEVENTH MONTH.

The patient was thirty-six years of age, and the mother of seven children. She came under his care September 19, 1897. Five months before he had been called to see her on account of a profound collapse which threatened life. A history of irregular uterine hemorrhages was elicited, and he made a diagnosis of ruptured tubal pregnancy on the left side. Operation was deferred at this time, for the reason that it was feared the patient would die under the anesthetic. Nothing further was heard from the patient until the date mentioned, when the abdomen was found distended by a tumor on the left side and in the center as high as the umbilicus. On the right side was another apparently distinct cyst filling that side of the pelvis, and extending well up into the abdominal cavity. On opening the latter a large tumor, occupying the center and left side, presented. Its surface was somewhat irregular, very dark in color, and traversed in every direction by large blood-vessels. The enlarged uterus was enclosed in this mass. The tumor of the right side was about the size of an adult head, and seemed to be distinct from the larger one, the dividing line dipping down between them about half the diameter of the mass. To the larger growth was attached several coils of intestine, which were dark and changed in texture at the points of contact. The cyst on the right side peeled out without much hemorrhage. But an appalling flow of blood began with the work of peeling the placenta off from the pelvic and abdominal walls. Peeling it as rapidly as possible, the mass was loosened and iodoform gauze quickly packed behind it. The cyst was still unbroken, and had the appearance when lifted up of being a fibrocystic tumor of the

uterus. The author concluded to remove the uterus and drain through the vagina. As the uterine arteries could not be reached a wire attached to a *serra nœud* was thrown around the uterus, tightened, and the mass cut away. The patient was now in such a critical condition that the author abandoned the idea of draining through the vagina. He tied the uterine and ovarian arteries, and packed the cavity with iodoform gauze, which was brought out at the lower angle of the wound, and closed the abdomen with silkworm gut. The gauze was removed on the sixth day. On the eighth day fecal matter passed from the drainage tract. From this time until she left the hospital, October 30th, most of the feces passed by the fistula. Five days later she was having free rectal evacuations with a corresponding falling off of the fecal discharge from the fistula.

The large tumor was entirely covered by an enormously expanded placenta beginning in the bottom of the pelvis, and firmly attached to the pelvic and a portion of the abdominal wall, its villi reaching well down into the tissues. From the top it was deflected from the abdominal parietes over and beyond the center, everting the body of the uterus. In the cyst thus formed a fetus of about seven months was found.

DR. L. MCLANE TIFFANY of Baltimore read a paper, entitled

CYSTIC DISEASE OF THE MAMMA.

He said that the occurrence of cysts as a confusing element in the course of solid tumors of the breast is not so uncommon and might greatly resemble the subject dealt with in his paper, yet the clinical history and anatomy of cystic adenomata is sufficiently clear and the prognosis sufficiently important to justify careful study. In most cases an accurate diagnosis could be determined before operation. Dr. Tiffany reported eleven cases which showed many symptoms in common.

DR. A. V. L. BROKAW of St. Louis, Mo., made some remarks upon

THE X-RAY AND ITS APPLICATION TO SURGERY,

and exhibited 200 radiographs. He showed excellent radiographs of the heart, thorax, fractures of the dorso-lumbar vertebræ, pelvis, and fractures and lesions of the long bones. Of the many hundred exposures he has made, he has yet to see harmful effects following the use of the X-ray.

SECOND DAY—MORNING SESSION.

DR. D. F. TALLEY of Birmingham, Ala., read a paper on

CHRONIC PROCTITIS.

He dealt with two varieties of non-specific chronic proctitis: (1) Those cases in which a diffuse, persistent inflammation, superficial ulceration, and papillomatous vegetation are the prominent features; (2) those in which the submucous tissues are principally involved in the hypertrophic process, causing a proliferative stenosing proctitis. The main symptoms of these two forms of proctitis were described. Rest in the recumbent position was recommended as being of paramount importance in the treatment of the first form of the disease. The diet should be of a liquid character, bland, and nutritious. In the absence of ulceration, where there is a diffuse chronic inflammation, the mucous membrane should be mopped with a strong silver or copper solution. The after-treatment consists in putting the patient to bed, washing the rectum daily with warm boric-acid solution, and the use of suppositories of iodoform and boric acid. In chronic cases in which the ulcers are extremely indolent, the solid stick of silver nitrate or a crystal of copper may be used. In these cases it is necessary to make repeated applications before the ulcers become healthy and begin to heal.

DR. WM. H. MYERS of Fort Wayne, Ind., read a paper on

THE EARLY DIAGNOSIS AND TREATMENT OF CANCER OF THE UTERUS,

in which he first dwelt upon the various theories respecting the nature of cancer, the last theory being that the disease is purely local in origin. The author dealt with the elements of diagnosis, and gave the statistics of the results following operations by different authors for this disease. He considered that the value of the microscope as an aid in the clinical diagnosis of cancer has been overestimated, and quoted several high authorities in support of this opinion. He closed by saying that the knife had become the emblem of gynecologic treatment. It had supplanted the curette, intra-uterine injections, caustic applications, the quaint conceits of the monkish craft, and the brutal records of the cancer cure. The knife had become, in a surgical sense, the specific therapy of this particular disease.

SECOND DAY—AFTERNOON SESSION.

DR. F. D. THOMPSON of Fort Worth, Tex., reported

A CASE OF TETANUS FOLLOWING A SURGICAL OPERATION.

The patient, a male, was twenty-one years of age, with a good family history, for whom a radical operation had been performed for extensive varicocele. Thorough asepsis was carried out. The result of the operation was excellent; yet on the morning of the ninth day after operative interference the patient could not open his mouth very well, and there was more or less stiffness about the muscles of the neck. A diagnosis of incipient tetanus was made, and the patient died less than three days after the first appearance of the tetanic symptoms. The speaker could not account for the infection with the bacillus of tetanus.

At this juncture the President, DR. GEORGE BEN JOHNSTON, delivered an address. He selected for his subject

THE PREVALENCE OF SPECIALISM AND WHO SHALL BE SPECIALISTS.

The tendency of the times was toward specialism in medicine. Specialism is desirable because it gives to the profession and the people the most intelligent consultants and the most skilled attendants the art of medicine can supply. He divided specialists into two kinds: the *true* and the *false*. The former he defined as one distinguished

for learning and skill in a given pursuit; the latter as one having merely a special occupation. He made the difference between these varieties very clear; for one reached the distinction of a specialist by reason of his training, experience, skill, and wisdom; whereas, the other was made a specialist by the possession of a diploma, a door-plate, and a "kit" of special instruments. The professional qualities of the true specialist he likened to a massive pyramid, the finished capstone of which constitutes the specialty. This pyramid of experience, learning, and skill is a stable edifice, a pillar of strength which cannot topple or reel. In the case of the pseudospecialist this pyramid of learning is inverted. There is no base of a knowledge of detail, of general information, of professional attainments. The structure has no foundation in fact. It began with the specialty, and its growth spreads as it ascends, overshadowing what is below, thus rendering it an unstable, top-heavy structure. The public has been improperly educated in the idea of specialism. In its eye all specialists stand upon the same footing, all possessing the needful requirements to give the best service. The profession has misled the public and is responsible for this lack of discrimination. Medical colleges should vigorously discourage the practice of recent graduates becoming specialists. Teachers should point out to them the error they are about to commit. Colleges should recognize only the real specialists. Reform in the present system of specialism must be accomplished through the instrumentality of medical colleges and societies, and when they take the matter properly in hand, the general profession and public will lend cordial support and the evil will vanish.

A paper, entitled

OVARIOTOMY IN THE AGED,

was read by DR. A. M. CARTLEDGE of Louisville, Ky. The patient upon whom the operation had been performed was born October 29, 1816. Eighteen months before the speaker saw her an abdominal enlargement was noticed, followed shortly after by pressure symptoms. Latterly the gastric and digestive disturbances from pressure had been very troublesome; emaciation and ovarian expression appreciable, but not marked. Examination revealed that the abdomen was well filled with a cystic growth, which was diagnosticated as ovarian. Naturally the great age of the patient—past eighty years—made the decision as to operation a debatable one. However, an operation was deemed justifiable, urged, and consented to, and was performed May 12, 1897. The ovarian cyst originated from the right ovary, was multilocular, and, with fluid and omentum, weighed about forty pounds. The operation consumed fourteen minutes. The patient sat up fourteen days after the operation, and left the infirmary on the seventeenth day.

DR. H. H. GRANT of Louisville contributed a paper on

OPERATIVE TREATMENT FOR ENLARGED PROSTATE,

in which he drew the following conclusions: (1) That in malignant disease any operative step except palliative suprapubic drainage, even if based upon an error in diagnosis, is a serious mistake. (2) That in myomas, fibromas, and adenomas it is yet uncertain that good results will follow castration, and, furthermore, that such conditions render enucleation by the Alexander method very difficult, and perhaps impracticable. Hence, when the interference resists catheterization and is not remedied by the permanent catheter, as suggested by Kern, suprapubic section and removal of the projecting portion, if possible, or the permanent fistula of McGuire, is the wisest course. (3) In conditions including stone in the bladder, suppuration in the gland, and the suspicion of intravesical growths, exploration by the suprapubic method offers the best insight into the nature of the lesion, as well as the most hopeful prospect of relief. (4) Inasmuch as castration is unsatisfactory, and is less acceptable to men under sixty-five years of age than later, it appears that the commonest form of enlargement, the chronic parenchymatous, to which the operation of Alexander is especially appropriate, will be best treated by this method, provided it appears practicable or necessary after section, which, if it bears out the promise of the present, will surely take a high place in the future, as it has almost no disadvantages aside from the seeming gravity of the step.

THIRD DAY—MORNING SESSION.

DR. RUFUS B. HALL of Cincinnati read a paper, entitled

IMPROVED TECHNIC IN OPERATION FOR INTRA-LIGAMENTOUS CYSTS.

After reviewing the literature of the subject, the Doctor said he believes the mortality from operation for intraligamentous cyst is much higher than the statistics would lead one to think. A large percentage of the deaths are due to hemorrhage, either on the operating-table or within a few hours after the patients are put to bed. He thought the operation proposed by him will save many lives, as it is practically bloodless. It is applicable to those cases in which the adhesions are very firm and the cyst cannot be easily stripped from the pelvic floor. The operation he proposes is as follows: First tap the cyst and empty it. Ligate the ovarian artery on the tumor side at the pelvic border; ligate the ovarian artery on the opposite side, outside the healthy ovary; divide the broad ligament. Divide the peritoneum above the top of the bladder and push the bladder down. Ligate the uterine artery on the healthy side. Cut across the cervix and clamp or ligate the uterine artery on the tumor side. The blood-supply is then cut off, and the patient has not lost a dram of blood. The capsule of the tumor may now be divided above the top of the bladder at a suitable point behind, and the tumor enucleated from below upward with a very much greater ease than from above downward and with corresponding safety to the ureters, rectum, and iliac vessels. Close the peritoneum over the pelvic floor with a running suture of catgut. This method brings every part of the field of operation into view. The ureter may be seen, recognized and pushed aside. The adhesions are separated along the line of cleavage instead of against it as in the old method.

SYMPHYSEOTOMY AS COMPARED WITH OTHER OBSTETRIC OPERATIONS.

This paper was read by DR. GEORGE J. ENGLEMANN of Boston. The author illustrated his remarks by diagramatic

sketches. Symphyseotomy is not as attractive an operation as is Cæsarean section or the Porro operation, yet it is very successful as compared with the results of the former procedure. It is a successful all-round operation for the city and country. The mortality statistics of the different operative procedures were given and compared. There has been no trouble in getting union of the pubic bone after symphyseotomy. Quite a number of women have been delivered by a second symphyseotomy. There is no trouble in the locomotion of women so operated upon. A number of cases are on record of normal labors which have followed symphyseotomy. The first symphyseotomy in this country was performed by Dr. Williams of Dennison, Texas. Dr. Englemann showed what had been accomplished by the operation, and said that surgeons must be guided in a measure by the quoted results.

PLASTER OF PARIS AS A UNIVERSAL FRACTURE DRESSING,

was the title of a paper by DR. JOHN B. S. DAVIS of Birmingham, Ala. The author finds that less than 3 per cent. of the physicians who use plaster of Paris as a primary dressing cut the plaster at the time of applying it. The object of incising the plaster of Paris is to allow it to yield and at the same time fit the contour of the limb For fractures of the shaft of the humerus, as elsewhere, he believes plaster of Paris is the best dressing.

The following officers were elected for the ensuing year: President, Dr. Richard Douglas of Nashville, Tenn.; vice-presidents, Drs. H. H. Mudd of St. Louis, and James A. Goggans of Alexander City, Ala.; secretary, Dr. W. E. B. Davis, Birmingham, Ala.; treasurer, Dr. A. M. Cartledge, Louisville, Ky.

The next meeting of the Association will be held at Memphis, Tenn., the second Tuesday of November, 1898.

REVIEWS.

INTERNATIONAL CLINICS. A quarterly of clinical lectures. Edited by JUDSON DALAND, M.D., J. MITCHELL BRUCE, M.D., F.R.C.P., and DAVID W. FINDLAY, M.D., F.R.C.P. Volume II., seventh series. Philadelphia: J. B. Lippincott Co., 1897.

THE present volume contains contributions on treatment, medicine, neurology, surgery, gynecology and obstetrics, ophthalmology, laryngology, and dermatology. The selection of topics is good, and the lecturers by well-known clinicians. There is a great temptation in publishing a series of lectures to insert inferior productions. Such has not been the case with the editors of "International Clinics," who, in each succeeding volume, prove the value of carefully chosen and instructive lectures. These lectures must be particularly valuable to those to whom attendance at clinics is impossible. This volume is splendidly made and handsomely illustrated.

URINALYSIS: A GUIDE FOR THE BUSY PRACTITIONER. By HEINRICH STERN, Ph.S., M.D. New York: E. R. Pelton, 1897.

THIS little volume will prove very useful to the physicians in general practice, as it covers the ground of urinalysis in a clear, concise, and practical manner, and avoids all unnecessary details and refinements of methods. Exception must be taken to the following statement, however: "Pathogenic bacteria, so-called, are said to occur in the urine in two varieties—as micrococci and bacilli. A number of micrococci and bacilli do certainly occur in the urine. In the estimation of the writer, however, they are not pathogenic, nor does their presence aid and establish a trustworthy or rational urinary diagnosis." With this exception the book is well up to date. Every alternate page is left blank for notes, and several wood-cuts of the various crystals and casts illustrate the text.

THERAPEUTIC HINTS.

A Local Application for Tuberculous Laryngitis.—First, anesthetize the larynx by means of a 10-per-cent. solution of cocain, and then, beginning with the weaker solution, apply the following:

℞	Ac. carbolici	*m.* xv — lxxx
	Ac. lactici	ʒ ss — iv.
	Glycerini pur. . . .	ʒ v.

For Chilblain.—

℞	Calcii chlorid. . . .	gr. l
	Ungt. paraffin . . .	℥ i.

M. Sig. Apply with gentle friction for five minutes at bedtime, and then cover with a bandage.

Diuretin in Acute Nephritis.—This drug is valued by STEINER for its efficiency in causing diaphoresis and lessening the dropsical symptoms. It may be prescribed as follows:

℞	Diuretin	gr. lxxx
	Syr. simp.	ʒ v
	Aq.	℥ v.

M. Sig. One tablespoonful every two hours.

For the Relief of Painful Affections of the Bladder, Prostate, or Urethra the following have proven efficacious:

℞	Morphin hydrochlor. . .	gr. ii
	Atropin sulph. . . .	gr. $\frac{1}{6}$
	Aq. dest.	℥ iii.

M. Sig. From 30 to 80 drops should be injected into the rectum. In addition, should fever be present, the following is advised:

℞	Cocain	gr. xiv
	Antipyrin, Sod. salicyl. } aa. . .	℥ iiss
	Aq. dest.	℥ iii.

M. Sig. Inject 80 drops per rectum three times daily.

For Pelvic Peritonitis and Peri-uterine Exudate.—

℞	Iodol.	ʒ iss
	Ext. glycyrrhizæ . . .	q. s.

M. Ft. pil. No. LX. Sig. One pill four times daily during four days, and then gradually increase until 10 pills daily are taken.

Within five days there will be a decrease of pain, fever, and abdominal tension, and the exudate will be quickly resorbed.